

**PROJECT SPECIFIC TECHNICAL SPECIFICATIONS  
FOR THE PURCHASE OF  
STEEL TRANSMISSION POLES FOR THE NEW WORLD 230KV SUBSTATION –  
TRANSMISSION PROJECT**

JEA PROJECT NO: 8011060  
TR NO: TR 1426  
BID DUE DATE: September 21st, 2026  
REQUESTED BY: Mohsen Shojaeion

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## 1. SCOPE

- 1.1 This specification outlines the required information needed for the purchase, fabrication, and delivery of steel transmission poles for the “NEW WORLD 230kV SUBSTATION - TRANSMISSION PROJECT”. This specification complements the “General Technical Specifications for the Purchase of Steel Transmission Poles”, Rev 1.4.2.
- 1.2 This specification includes the following attachments:
  - a) Pole Drawings, containing the configuration, load development, and fabrication details of the pole(s)
  - b) Pole Attachment Details
- 1.3 The Project Engineer (JEA) for this purchase is:

Mohsen Shojaeion  
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Jacksonville, FL, 32202  
Cell: (904) 678-7227  
Email: [Talem@jea.com](mailto:Talem@jea.com)

## 2. DESIGN

Structures shall be designed for the configuration, drilling and fabrication details, loadings and limitations contained in these and the “General Technical Specifications for the Purchase of Steel Transmission Poles”, Rev 1.4.2.

- 2.1 Pole Configuration: The configuration of each pole to be provided is shown in the “Pole Drawings” attachment of these specifications. The Drawings specify the dimensions of the poles, the orientation, drilling details, and attachment locations for insulators, brackets, vangs, etc.
- 2.2 Pole Attachment Details: Details of all attachments are shown in the “Attachment Details” attachment of these specifications. These details illustrate and identify required dimensions on all the insulator attachments, brackets, and vangs that are to be provided with each pole. Attachments that support any equipment if any (transformers, streetlights, etc. modeled in PLS-POLE) need to be analyzed to determine if they can withstand the dead loads of that equipment. It is the responsibility of the fabricator to ensure that the attachments are fabricated and can withstand the loads placed on them as specified in these specifications and attachments.
- 2.3 Pole Load Data: All the loading data for which the poles are to be designed to are included in the “Load Development Drawings” attachment of these specifications. All structures are subjected to a NESC Light 60 mph wind loading, NESC Extreme 120 mph base wind loading, NESC Blow Out 6PSF loading, and 60 Degree loading criteria plus applicable load factors. Deflection criteria is specified in the “Load Development Drawings” and described in more detail in section 2.6 below.

- 2.3.1 There are four (4) unique structure design specified as provided in the Pole Configuration and Load Development drawings. There are four (4) structures being purchased.

2.4 Pre-cambering: Pole pre-cambering is not allowed on this project.

2.5 Joints: Steel pole sections shall be designed by the slip-joint method and/or bolted flange method. It is up to the manufacturer to decide the most appropriate joining method based on the loads provided.

2.6 Deflection: All Poles shall be designed to meet the deflection limits as identified in the Load Development Drawings. In general, poles shall meet the deflection limits for the "NESC LIGHT 250 B", "NESC EXTREME 250 C", "NESC BLOW OUT 6 PSF", and "60 DEG F" loading conditions. When applicable (as identified in the Load Development Drawings), poles shall also meet the deflection limits of the loading conditions as described in the sections below. These load conditions are identified under the load table notes within the Load Development Drawings. On all poles, loads are provided from multiple directions including loads that result with positive offset (NA+), negative offset (NA-), and maximum structure usage (MAX). The loading condition name will be followed by a comma and a wind load direction. For example, a load case description by the name of "NESC LIGHT 250B, U NA+" identifies that this is a NESC Light 250 B loading criteria with wind normal to all spans/ structure in direction of positive offset. The deflection limits are as described below:

- 2.6.1 **The "60 DEG F" loading condition:** The "60 DEG F" loading condition is at final wire tension, at 60 degrees Fahrenheit, with no wind, and no Over Load Factors (OLF). The pole shaft shall have a calculated deflection at the pole tip that does not exceed **one (1) %** of the structures above ground height under this loading condition.
- 2.6.2 **The "NESC BLOW OUT 6 PSF" loading condition:** The "NESC BLOW OUT 6 PSF" loading condition is at final wire tension, at 60 degrees Fahrenheit, with a 6psf wind, and no OLF. The pole shaft shall have a calculated deflection at the pole tip that does not exceed **two (2) %** of the structures above ground height under this loading condition.
- 2.6.3 **The "NESC LIGHT 250 B" loading condition:** The "NESC LIGHT 250 B" loading condition is at final wire tension, at 30 degrees Fahrenheit, with a 9psf wind, and appropriate OLF. The pole shaft for all poles shall have a calculated deflection at the pole tip that does not exceed **eight (8)%** of the structures above ground height under this loading condition.
- 2.6.4 **The "NESC EXTREME 250 C" loading condition:** The NESC EXTREME 250 C" loading condition is at final wire tension, at 60 degrees Fahrenheit, with a base 120 mph wind that has been adjusted based on the 250C wind adjustment modeling, with appropriate OLF. The pole shaft for all poles shall have a calculated deflection at the pole tip that does not exceed **eight (8)%** of the structures above ground height under this loading condition.

### 3. DIMENSION RESTRICTIONS

- 3.1 Poles for this project shall be installed in a JEA transmission right-of-way with limited room/access. Pole dimensions shall adhere to very strict restrictions as described in the sections below. The pole manufacturer shall design the poles to meet the requirements as described in sections 3.2.1 below.

- 3.2 Structures #082-954, 049-960, 053-960, and 064-960 shall be galvanized steel structures. The pole manufacturer is responsible for designing, manufacturing, and delivering the steel poles to the construction sites.

3.2.1 **Structures shall be supported by drilled shaft foundations**

- a) Base Plates: Base plate connections shall be designed to resist the maximum forces and moments at the connection. A minimum edge distance of two (2) inches shall be maintained from the edge of the base plate to the center of the anchor bolt. A minimum edge distance of 1.5 inches shall be maintained to all weld seams. Anchor bolt holes located in the base plate shall be 3/8 inch greater than the anchor bolt diameter.
- b) Anchor Bolts: Anchor bolts shall be designed to transfer tensile, compressive, and shear loads from the structure to the concrete by adequate embedment length and shall be supplied as anchor bolt templates by the manufacturer. Section 9 of the General Tech Specification for Steel Poles shall apply for the anchor bolt cage assemblies.

- 3.2.2 Tip diameter: Vendor shall optimize structure tip diameter in accordance with the deflection criteria.

- 3.3 Steel Pole Shaft Thickness: The minimum allowed steel thickness for use on any steel pole shafts shall be 0.1875 inches.
- 3.4 Other restrictions: To ensure proper alignment of the steel poles, the pole shafts must have markings that will allow the contractor to align the pole shafts with the poles in the ahead and/or back spans. The marking must be easily identifiable and visible to the contractor. If a weld mark is used, the weld mark must be clearly visible so that it is not confused with a seam weld.
- 3.5 Quality Control: Quality control documents will be required prior to shipment of all structures. In addition to any requirements mentioned in the general technical specification, JEA will be looking for weld inspection reports. The manufacturer must perform inspections for weld integrity and to verify the absence of any detrimental defects to the structures per ASCE/SEI 48-11. Section 10.3.5 of this code states that "For galvanized members with large T-Joint Connections, such as base plates, etc., ultrasonic nondestructive weld testing shall be performed on 100% of all such joints, not only before, but after galvanizing to ensure that no cracks have developed." The inspections usually involve Magnetic particle inspection and ultrasonic flaw inspection. JEA is requiring that at minimum, a 45 degree angle transducer be used when inspecting for toe cracks before and after galvanization. Quality Control Reports must be submitted to the JEA project manager showing that all joints per section 10.3.5 of ASCE/SEQ 48-11 were inspected with the use of a 45 degree transducer before and after galvanization.

#### 4. POLE ATTACHMENT HARDWARE

- 4.1 The pole manufacturer shall provide all brackets, vangs, grounding attachments, and holes on each pole as shown in the "POLE DRAWINGS" and "POLE ATTACHMENT DETAILS" of these specifications.
- 4.2 Bolts, nuts, washers and other hardware required for attaching insulators, cross-arms, davit arms, transformers, and miscellaneous cables to pole brackets / vangs / holes, will be supplied by JEA and are not to be provided by the manufacturer.

- 4.3 Bolts, nuts, washers and other hardware required for assembling the pole sections together at the splice locations are to be provided by the pole manufacturer.
- 4.4 Bail steps will not be utilized for this project.

## 5. DELIVERY LOCATION AND DATE

- 5.1 Delivery of all poles and hardware will be to storage areas near the job site within the JEA service area. The delivery location for structures 082-954, 049-960, 053-960, 064-960 will be on the Project site as specified in section 10.
- 5.2 Specific directions for delivery will be provided by the construction contractor. The unloading will be done by the owner's forces and equipment or by a contractor representing the owner. The owner also reserves the right to allow a contractor representing the owner to coordinate delivery with the supplier. The supplier shall allow four (4) hours "turn around" time for unloading each pole. Untimely delivery, either ahead of or behind agreed upon delivery schedules, shall not be a cause for claim to the owner for any costs incurred by the Manufacturer. Freight is to be included in the bid price. JEA requests optional pricing for the storage of structures on a periodic basis. **All communications regarding the delivery date/time are to be verified and approved by email with the JEA Project Engineer even if verified and coordinated verbally with the contractor representing JEA. JEA will not be responsible for any extra costs incurred by the manufacturer for delivery that was not approved by the JEA Project Engineer.**

The poles and all associated hardware/attachments for the structures shall be delivered on the following tentative dates:

- Deliveries are anticipated to take place over a period between January and March 2028. For pricing assume one structure per day is to be delivered.

**Due to unforeseeable delays, the contractor representing owner will update and coordinate new delivery dates with the pole supplier should they change.**

## 6. BID FORM

### PROPOSAL FOR STEEL TRANSMISSION POLES

PROJECT: NEW WORLD 230KV SUBSTATION – TRANSMISSION PROJECT

Bidder Please Write Company Name Here: \_\_\_\_\_

| Bid Item No. | Standard Design No.   | Structure No. | Total Length | Required Quantity | Unit Price | Extended Bid Price |
|--------------|-----------------------|---------------|--------------|-------------------|------------|--------------------|
| 1            | C1365*1590 - 082-954  | #082-954      | 95'-0"       | 1                 | \$ _____   | \$ _____           |
| 2            | C1365*1590 - 049-960  | #049-960      | 95'-0"       | 1                 | \$ _____   | \$ _____           |
| 3            | C1365*1590 - 053-960  | #053-960      | 95'-0"       | 1                 | \$ _____   | \$ _____           |
| 4            | C1365*1590 - 064-960  | #064-960      | 95'-0"       | 1                 | \$ _____   | \$ _____           |
| 5            | Freight for all poles |               |              |                   |            | \$ _____           |
| 6            | Storage for all poles |               |              |                   |            | \$ _____           |
|              |                       |               |              |                   |            |                    |
|              |                       |               |              |                   | Total =    | \$ _____           |

My (our) lump sum bid for the items described above and in the tabulated total quantities is: \$ \_\_\_\_\_.

I (we) agree to provide approval drawings within \_\_\_\_\_ calendar days after receipt of the "notice to proceed" / purchase order.

And I (we) agree to complete deliveries of all items within \_\_\_\_\_ calendar days after the approval of the design calculations and approval drawings.

SIGNED FOR BIDDER: \_\_\_\_\_  
TITLE: \_\_\_\_\_

## 7. POLE DRAWINGS

### 1) Pole Drawings:

Structure Type C1365\*1590 230kV, One Circuit Vertical, Single Steel, Dead-End to Dead-End W/Post, Heavy Angle Full Tension to Full Tension, Structure 082-954

Structure Type C1365\*1590 230kV, One Circuit Vertical, Single Steel, Dead-End to Dead-End W/Post, Heavy Angle Full Tension to Full Tension, Structure 049-954

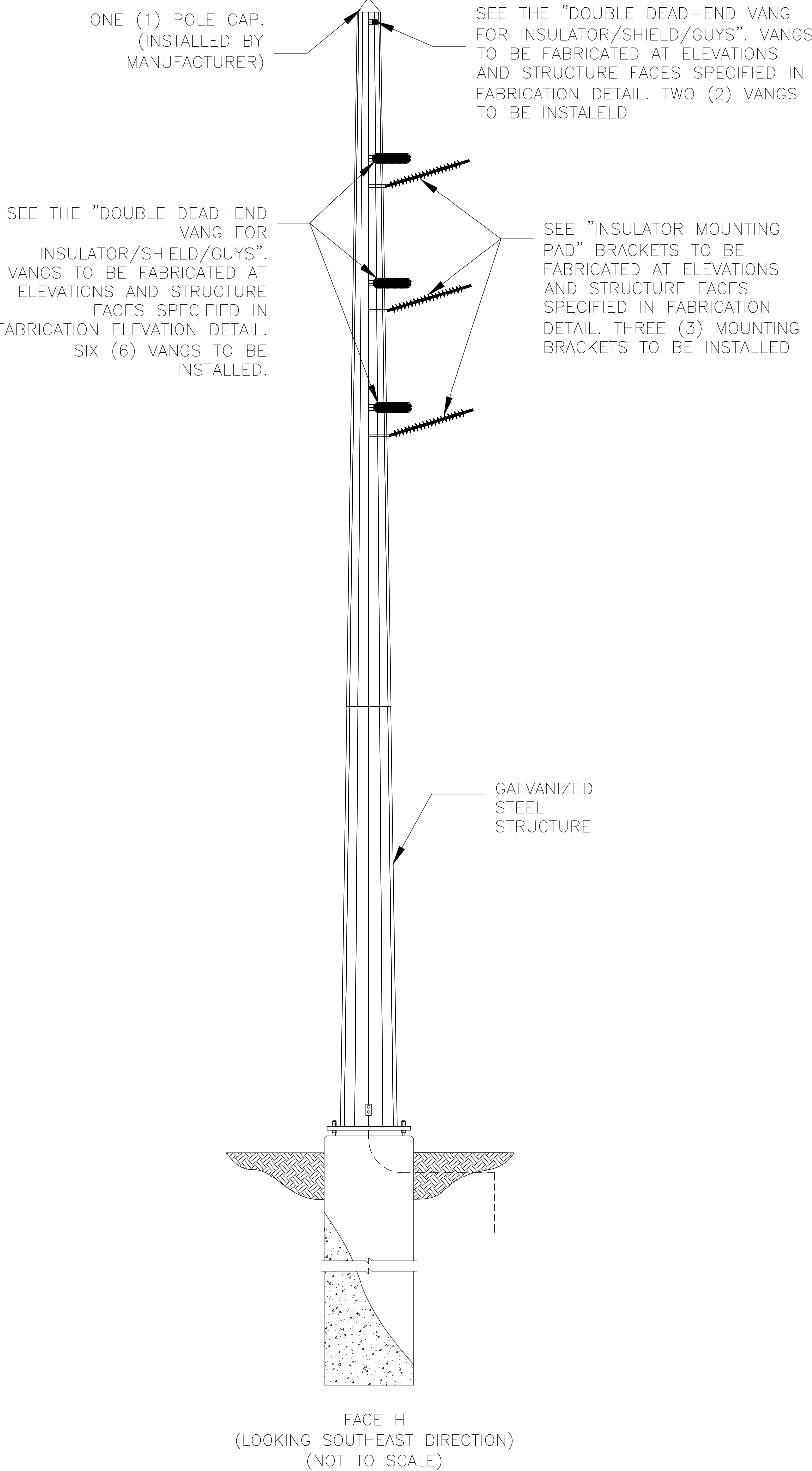
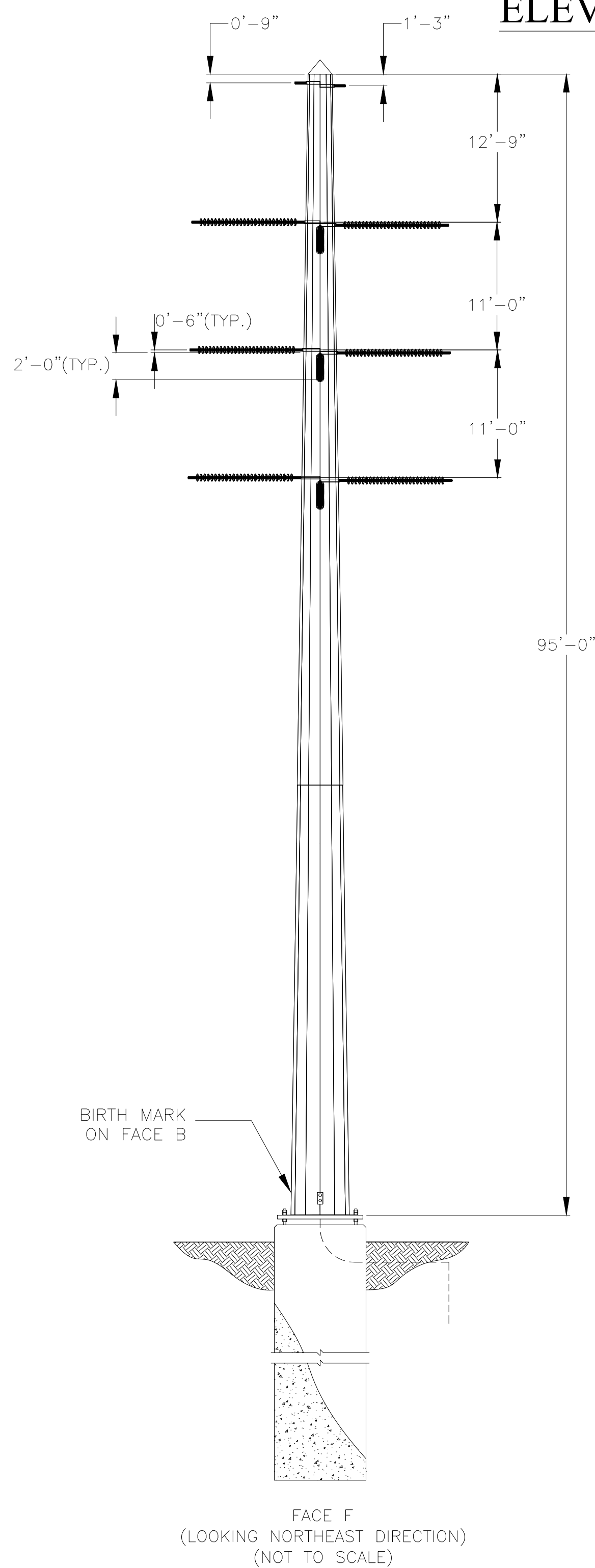
Structure Type C1365\*1590 230kV, One Circuit Vertical, Single Steel, Dead-End to Dead-End W/Post, Heavy Angle Full Tension to Full Tension, Structure 053-954

Structure Type C1365\*1590 230kV, One Circuit Vertical, Single Steel, Dead-End to Dead-End W/Post, Heavy Angle Full Tension to Full Tension, Structure 064-954

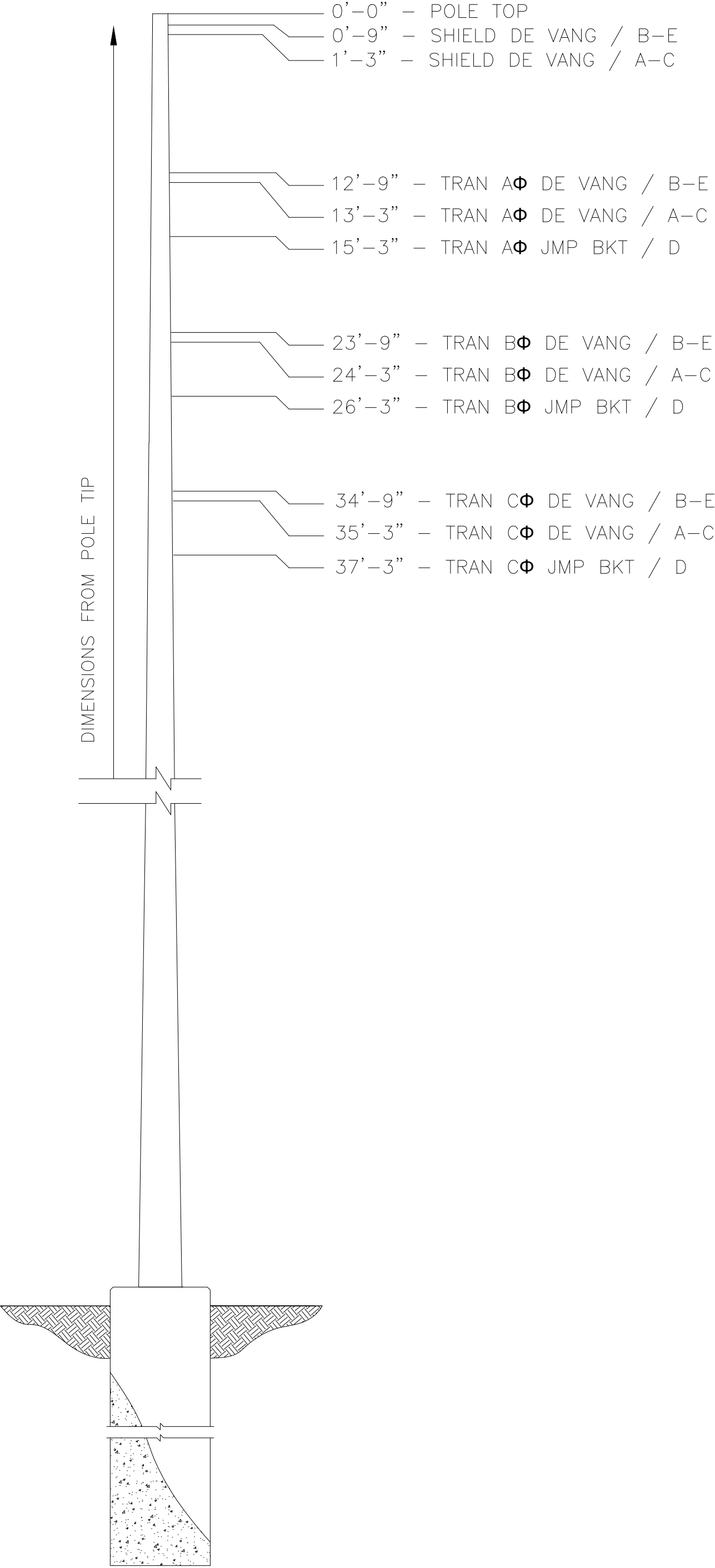


STRUCTURE TYPE  
C1365\*1590 230KV, ONE CIRCUIT VERTICAL, SINGLE STEEL,  
DEAD-END TO DEAD-END W/POST, HEAVY ANGLE FULL  
TENSION TO FULL TENSION  
STRUCTURE 082-954

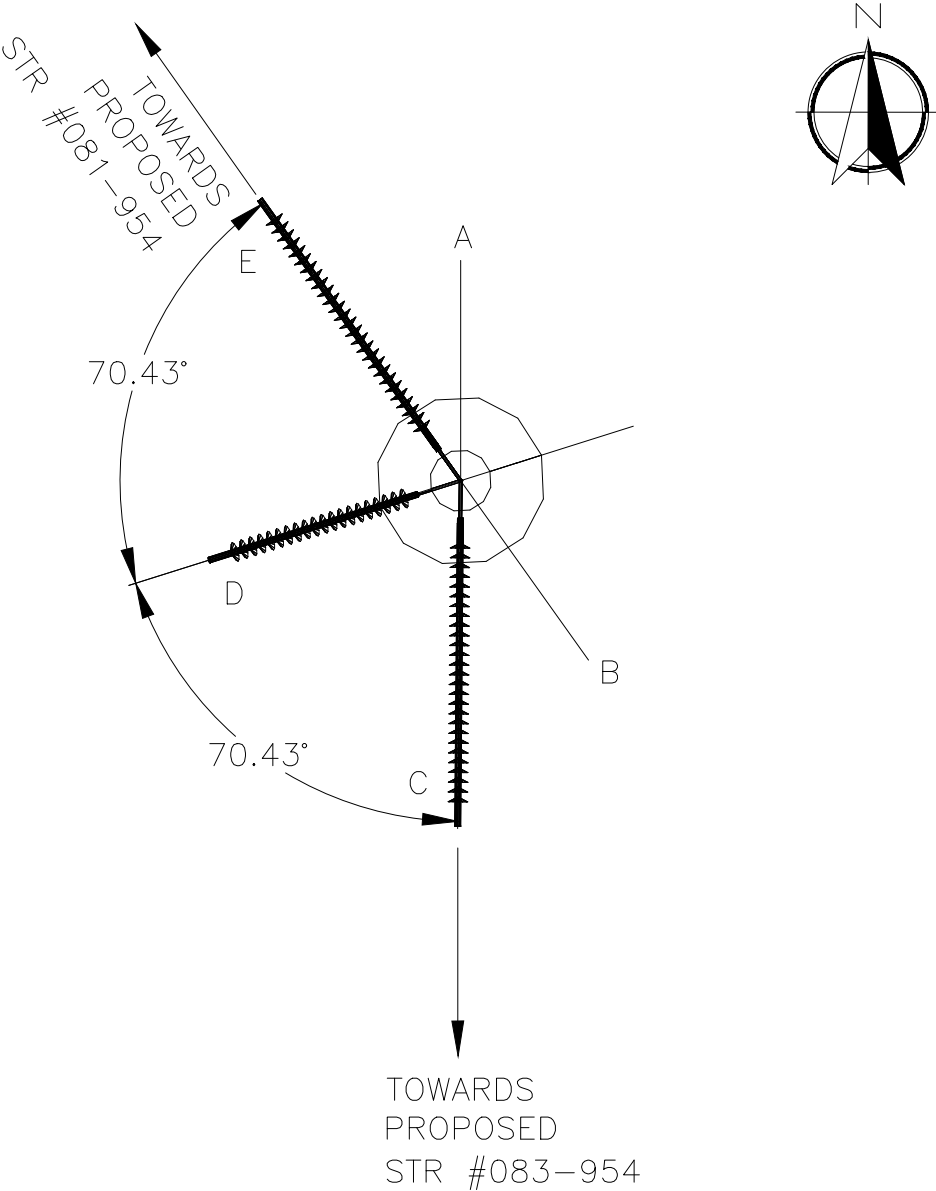
ELEVATION VIEW



FABRICATION DETAIL



POLE TIP VIEW



GROUND NUT LOCATIONS

| FOR        | FROM POLE TOP | FROM POLE BASE |
|------------|---------------|----------------|
| SHIELD     | 1' 6"         | -              |
| TRANS AΦ   | 13' 6"        | -              |
| TRANS BΦ   | 24' 6"        | -              |
| TRANS CΦ   | 35' 6"        | -              |
| GROUND ROD | -             | 1'-0"          |

| NO. | REVISION                     |  |  |  |  | REVISION |  |  |  |       | ENGINEERING RECORD |   |         | <br>BUILDING COMMUNITY | PROPOSED STR #082-954 POLE CONFIGURATION<br>FOR<br>NEW WORLD 230KV SUBSTATION - TRANSMISSION |           |  | PROJECT NO. |             |
|-----|------------------------------|--|--|--|--|----------|--|--|--|-------|--------------------|---|---------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------|--|-------------|-------------|
|     |                              |  |  |  |  |          |  |  |  |       |                    |   | 8011060 |                                                                                                             |                                                                                              |           |  |             |             |
|     | ISSUED FOR 30% DESIGN REVIEW |  |  |  |  |          |  |  |  |       | STATUS             |   | BY      |                                                                                                             |                                                                                              |           |  | DATE        | DRAWING NO. |
|     |                              |  |  |  |  |          |  |  |  |       | ASSIGNED           |   | PLAN    |                                                                                                             |                                                                                              |           |  | -           | TR 1426     |
|     | ISSUED FOR 60% DESIGN REVIEW |  |  |  |  |          |  |  |  |       | DESIGNED           |   | AJS     |                                                                                                             | 04/09/26                                                                                     | SHEET NO. |  |             |             |
|     |                              |  |  |  |  |          |  |  |  |       | DRAWN              |   | SK      |                                                                                                             | 04/28/26                                                                                     | 01 OF 08  |  |             |             |
|     |                              |  |  |  |  |          |  |  |  |       | CHECKED            |   | JA      |                                                                                                             | 06/15/26                                                                                     |           |  |             |             |
|     |                              |  |  |  |  |          |  |  |  | APP'D |                    | - | -       |                                                                                                             |                                                                                              |           |  |             |             |
|     |                              |  |  |  |  |          |  |  |  |       |                    |   |         | SCALE: N.T.S.                                                                                               | PROJECT DESIGN SEGMENT 8011060                                                               |           |  |             |             |



STRUCTURE TYPE: ONE CIRCUIT VERTICAL, SINGLE STEEL DEAD-END TO DEAD-END W/POST, HEAVY ANGLE (30 - 50 DEG) FULL TENSION TO FULL TENSION

| LOAD CASES           | WIND<br>(MPH) | WIND<br>(PSF) | STRUCTURE<br>WIND<br>(MPH) | STRUCTURE<br>WIND<br>(PSF) | Ø  | ICE<br>(IN) | TEMP<br>(°F) | I/C/L | VERTICAL<br>LOAD<br>FACTOR | WIND<br>LOAD<br>FACTOR | WIRE<br>LOAD<br>FACTOR | VSA<br>(K) | TSA<br>(K) | LSA<br>(K) | VSB<br>(K) | TSB<br>(K) | LSB<br>(K) | VPA<br>(K) | TPA<br>(K) | LPA<br>(K) | VPB<br>(K) | TPB<br>(K) | LPB<br>(K) | W<br>(PSF) | K    |
|----------------------|---------------|---------------|----------------------------|----------------------------|----|-------------|--------------|-------|----------------------------|------------------------|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| NESC 250B            | 59.3          | 9             | 59.3                       | 9                          | 90 | 0           | 30           | I     | 1.5                        | 2.5                    | 1.65                   | 0.42       | 1.59       | -3.22      | 0.42       | 1.59       | 3.22       | 1.52       | 4.34       | -8.02      | 1.52       | 7.83       | 16.09      | 22.50      | 1.50 |
| NESC 250C            | 120.1         | 36.9          | 120.1                      | 36.9                       | 90 | 0           | 60           | I     | 1.1                        | 1.2                    | 1.2                    | 0.31       | 2.03       | -3.80      | 0.31       | 2.03       | 3.80       | 1.11       | 6.62       | -11.34     | 1.11       | 9.48       | 17.95      | 44.28      | 1.10 |
| NESC 250D            | 30            | 2.3           | 30                         | 2.3                        | 90 | 0           | 15           | I     | 1.1                        | 1.1                    | 1                      | 0.31       | 0.86       | -1.93      | 0.31       | 0.86       | 1.93       | 1.11       | 2.07       | -4.57      | 1.11       | 4.57       | 10.33      | 2.53       | 1.10 |
| DEFLECTION WITH WIND | 48.4          | 6             | 48.4                       | 6                          | 90 | 0           | 60           | I     | 1                          | 1                      | 1                      | 0.28       | 0.75       | -1.60      | 0.28       | 0.75       | 1.60       | 1.01       | 2.07       | -4.24      | 1.01       | 3.75       | 8.13       | 6.00       | 1.00 |
| DEFLECTION           | 0             | 0             | 0                          | 0                          | 90 | 0           | 60           | I     | 1                          | 1                      | 1                      | 0.28       | 0.66       | -1.53      | 0.28       | 0.66       | 1.53       | 1.01       | 1.72       | -3.98      | 1.01       | 3.35       | 7.74       | 0.00       | 1.00 |
| STRINGING            | 0             | 0             | 0                          | 0                          | 90 | 0           | 60           | I     | 1.5                        | 1                      | 1.5                    | 0.42       | 1.00       | -2.30      | 0.42       | 1.00       | 2.30       | 1.52       | 2.58       | -5.96      | 1.52       | 5.03       | 11.62      | 0.00       | 1.50 |

- STRUCTURE SHALL BE HOT DIP GALVANIZED.
2. THE FABRICATION SHALL COMPLY WITH ALL DESIGN REQUIREMENTS OUTLINED WITHIN THE JEA GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REVISED 1.4.3 AND THE PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES FOR THE NEW WORLD 230KV SUBSTATION-TRANSMISSION PROJECT.
3. LOADS ARE ULTIMATE LOADS AND INCLUDE ALL LOAD FACTORS.
4. V, T, AND L ARE, RESPECTIVELY, THE VERTICAL, TRANSVERSE, AND LONGITUDINAL LOADS APPLIED IN KIPS.
5. S, P, ARE, RESPECTIVELY, THE OHGW, 230KV PHASE ATTACHMENTS.
6. A AND B ARE RESPECTIVELY, THE AHEAD SPAN, BACK SPAN.
7. W IS THE WIND LOAD APPLIED TO THE STRUCTURE IN PSF. A SHAPE FACTOR OF 1.0 SHALL BE APPLIED TO MEMBERS WITH 12 OR MORE SIDES. A SHAPE FACTOR OF 1.4 SHALL BE APPLIED TO ANY MEMBERS WITH LESS THAN 12 SIDES.
8. THETA ( $\theta$ ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL AXIS OF THE STRUCTURE AND THE WIND DIRECTION.
9. THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
10. STRUCTURES SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:
  - A. ALL CONDUCTORS AND SHIELD WIRES INSTALLED.
  - B. ALL AHEAD SPANS ONLY INSTALLED.
  - C. ALL BACK SPANS ONLY INSTALLED.
11. STRUCTURE SHALL BE DESIGNED FOR A MAXIMUM FOUNDATION ROTATION OF 2 DEGREES.
12. VANGS SHALL BE DESIGNED TO WITHSTAND THE RESULTANT LOAD 5 DEGREES EITHER SIDE OF THE INDICATED VANE ANGLE RANGE.
13. LIMIT POLE TOP DEFLECTION TO 2% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION WITH WIND LOAD CASE.
14. LIMIT POLE TOP DEFLECTION TO 1% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION LOAD CASE.
15. LIMIT POLE TOP DEFLECTION TO 8% OF THE STRUCTURES ABOVE GROUND HEIGHT AT NESC 250B AND 250C LOAD CASES.
16. I, C, AND L ARE, RESPECTIVELY, INITIAL, CREEP, AND LOAD WIRE CONDITIONS.

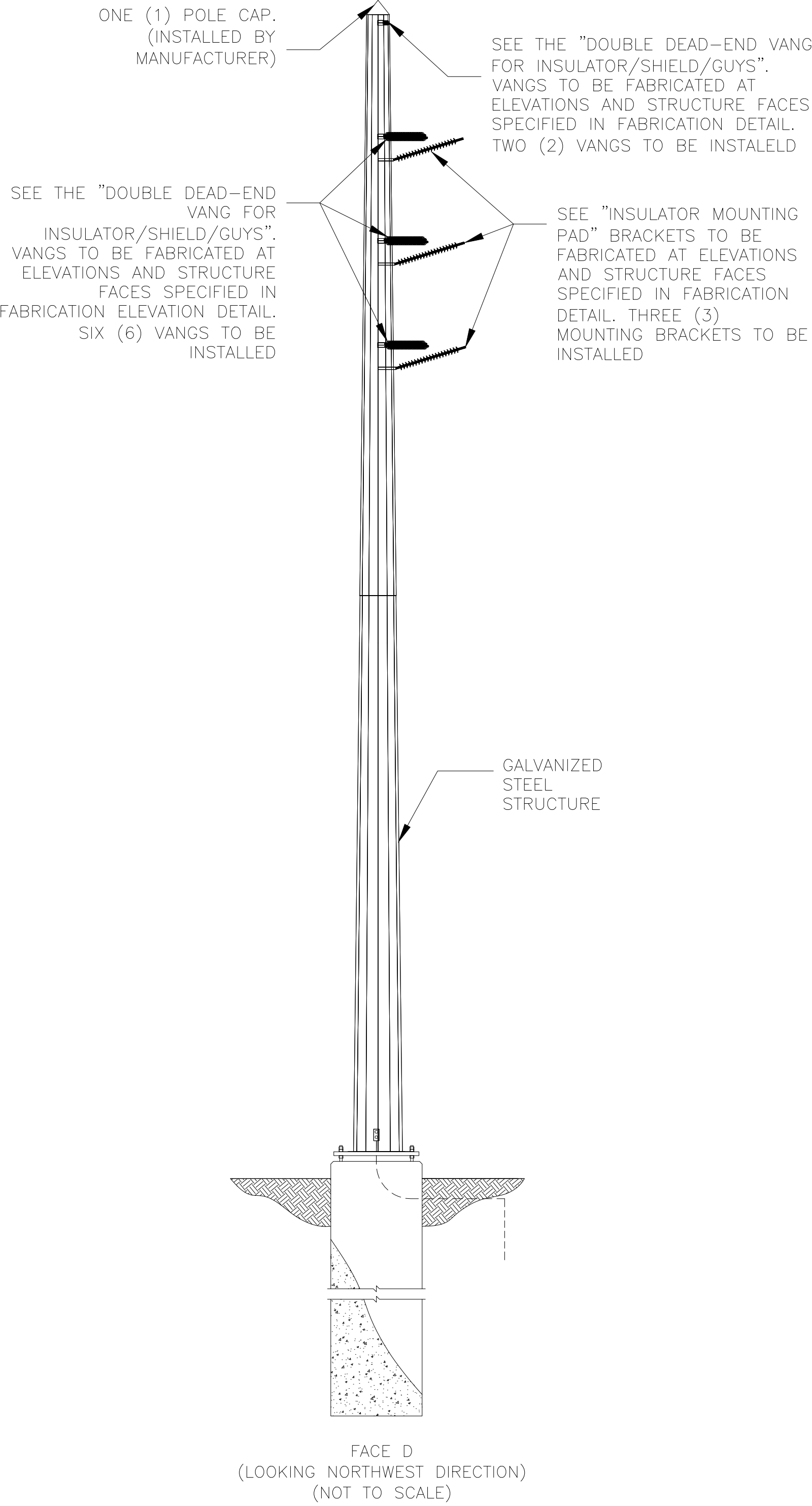
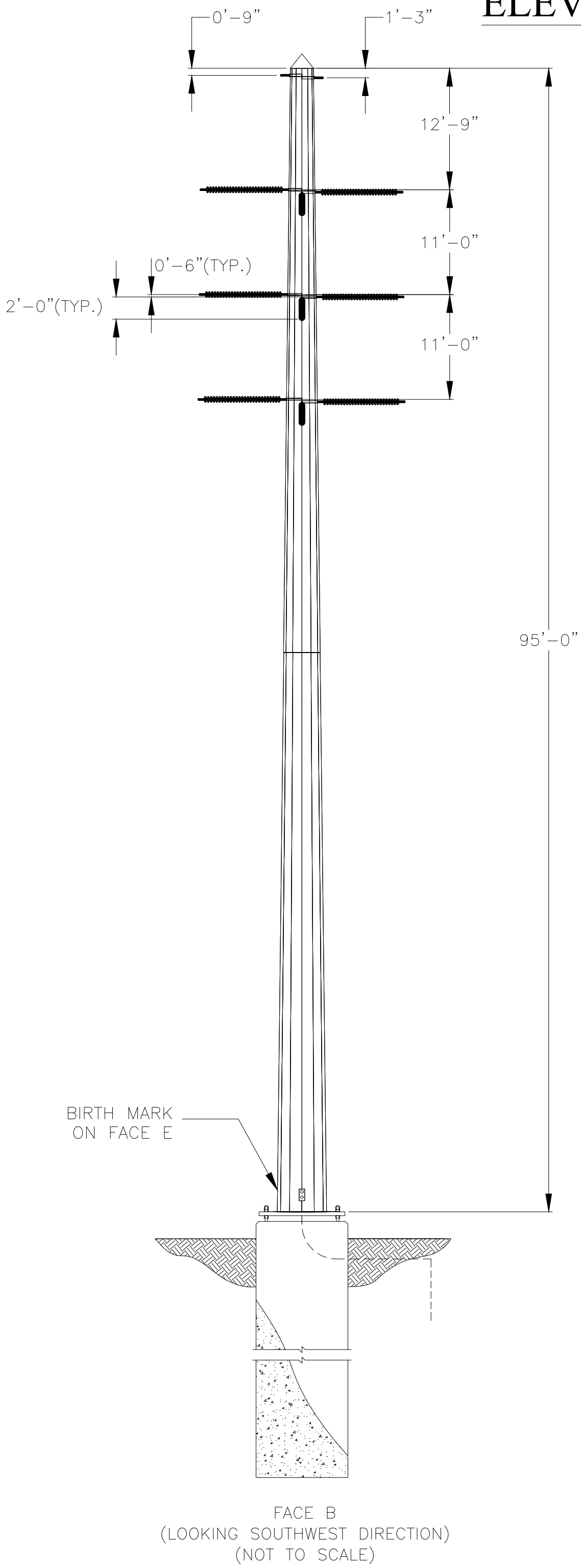


| NO.                          | REVISION                     | DATE     | BY  | CH'D | APP'D |          | REVISION | DATE     | BY            | CH'D                           | APP'D | ENGINEERING RECORD |  |  | <br>BUILDING COMMUNITY | PROPOSED STR #082-954 LOAD DEVELOPMENT<br>FOR<br>NEW WORLD 230KV SUBSTATION - TRANSMISSION |  |  | PROJECT NO. |
|------------------------------|------------------------------|----------|-----|------|-------|----------|----------|----------|---------------|--------------------------------|-------|--------------------|--|--|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|--|-------------|
|                              | ISSUED FOR 30% DESIGN REVIEW | 04/09/26 | AJS | JA   |       |          | STATUS   | BY       | DATE          | 8011060                        |       |                    |  |  |                                                                                                             |                                                                                            |  |  |             |
| ISSUED FOR 60% DESIGN REVIEW | 06/23/26                     | VA       | JA  |      |       | ASSIGNED | PLAN     | -        | DRAWING NO.   |                                |       |                    |  |  |                                                                                                             |                                                                                            |  |  |             |
|                              |                              |          |     |      |       | DESIGNED | AJS      | 04/09/26 | TR 1426       |                                |       |                    |  |  |                                                                                                             |                                                                                            |  |  |             |
|                              |                              |          |     |      |       | DRAWN    | SK       | 04/28/26 | SHEET NO.     |                                |       |                    |  |  |                                                                                                             |                                                                                            |  |  |             |
|                              |                              |          |     |      |       | CHECKED  | JA       | 06/15/26 | 02 OF 08      |                                |       |                    |  |  |                                                                                                             |                                                                                            |  |  |             |
|                              |                              |          |     |      |       | APP'D    | -        | -        | SCALE: N.T.S. | PROJECT DESIGN SEGMENT 8011060 |       |                    |  |  |                                                                                                             |                                                                                            |  |  |             |

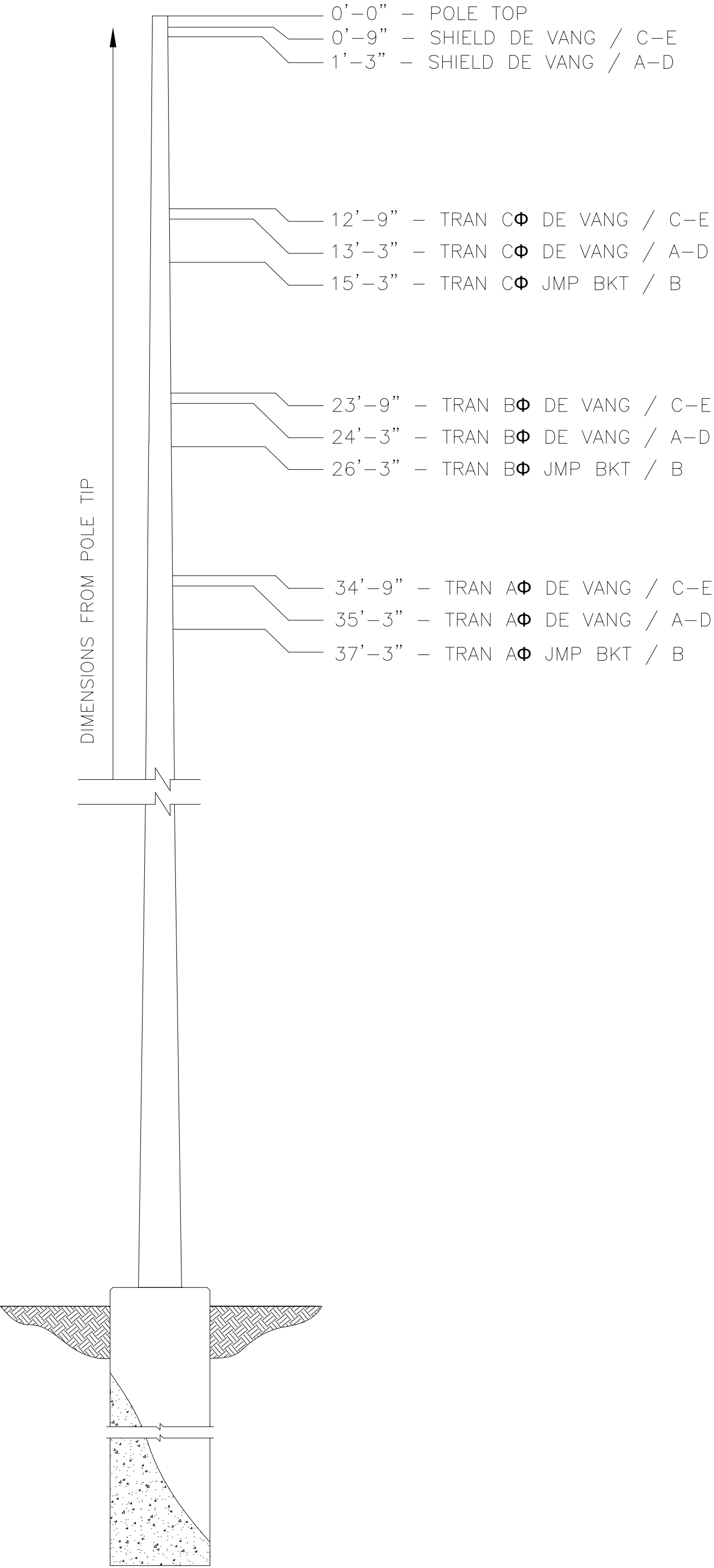


STRUCTURE TYPE  
C1365\*1590 230KV, ONE CIRCUIT VERTICAL, SINGLE STEEL,  
DEAD-END TO DEAD-END W/POST, HEAVY ANGLE FULL  
TENSION TO FULL TENSION  
STRUCTURE 049-960

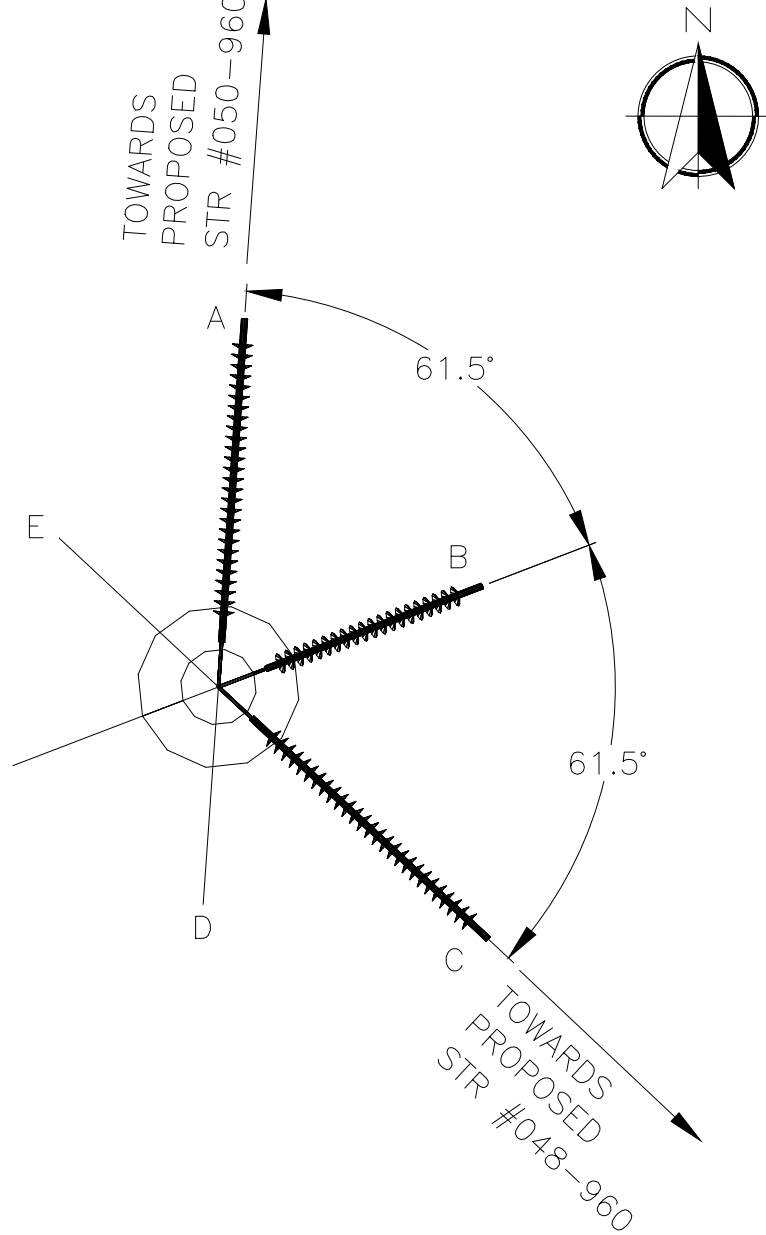
ELEVATION VIEW



FABRICATION DETAIL



POLE TIP VIEW



GROUND NUT LOCATIONS

| FOR        | FROM POLE TOP | FROM POLE BASE |
|------------|---------------|----------------|
| SHIELD     | 1' 6"         | -              |
| TRANS CΦ   | 13' 6"        | -              |
| TRANS BΦ   | 24' 6"        | -              |
| TRANS AΦ   | 35' 6"        | -              |
| GROUND ROD | -             | 1'-0"          |

| NO.                          | REVISION |          | DATE | BY | CH'D | APP'D | REVISION |  | DATE | BY | CH'D | APP'D | ENGINEERING RECORD |      |          | <br>BUILDING COMMUNITY | PROPOSED STR #049-960 POLE CONFIGURATION<br>FOR<br>NEW WORLD 230KV SUBSTATION - TRANSMISSION |  |  | PROJECT NO. |
|------------------------------|----------|----------|------|----|------|-------|----------|--|------|----|------|-------|--------------------|------|----------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--|--|-------------|
|                              |          |          |      |    |      |       |          |  |      |    |      |       | STATUS             | BY   | DATE     |                                                                                                             |                                                                                              |  |  | 8011060     |
| ISSUED FOR 30% DESIGN REVIEW |          | 04/09/26 | AJS  | JA |      |       |          |  |      |    |      |       | ASSIGNED           | PLAN | -        |                                                                                                             |                                                                                              |  |  | DRAWING NO. |
| ISSUED FOR 60% DESIGN REVIEW |          | 06/23/26 | VA   | JA |      |       |          |  |      |    |      |       | DESIGNED           | AJS  | 04/09/26 |                                                                                                             |                                                                                              |  |  | TR 1426     |
|                              |          |          |      |    |      |       |          |  |      |    |      |       | DRAWN              | SK   | 04/28/26 |                                                                                                             |                                                                                              |  |  | SHEET NO.   |
|                              |          |          |      |    |      |       |          |  |      |    |      |       | CHECKED            | JA   | 06/15/26 |                                                                                                             | 03 OF 08                                                                                     |  |  |             |
|                              |          |          |      |    |      |       |          |  |      |    |      |       | APP'D              | -    | -        |                                                                                                             |                                                                                              |  |  |             |
| JEA BUILDING COMMUNITY       |          |          |      |    |      |       |          |  |      |    |      |       |                    |      | SCALE:   | N.T.S                                                                                                       | PROJECT DESIGN SEGMENT 8011060                                                               |  |  |             |



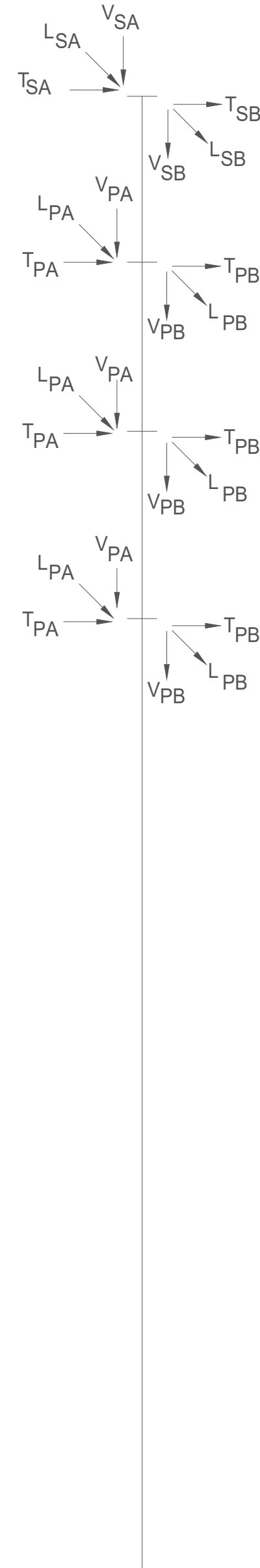
STRUCTURE NUMBER: 049-954  
STRUCTURE TYPE: ONE CIRCUIT VERTICAL, SINGLE STEEL DEAD-END TO DEAD-END W/POST, HEAVY ANGLE (45 - 65) FULL TENSION TO FULL TENSION

|                                                |         |         |                                                            |         |         |
|------------------------------------------------|---------|---------|------------------------------------------------------------|---------|---------|
| 3 NO. 6 ALUMOWELD, 0.178 LB/FT, 0.512 IN DIA.  | (SA)    | (SB)    | 1590 KCMIL 54/19 "FALCON" ACSR, 2.041 LB/FT, 1.544 IN DIA. | (PA)    | (PB)    |
| TENSION CONTROL T/I/W 30/0/9.0, INITAL (LBS.): | 2,000   | 500     | TENSION CONTROL T/I/W 30/0/9.0, INITAL (LBS.):             | 5,000   | 2,000   |
| WIND SPAN (FT):                                | 300     | 300     | WIND SPAN (FT):                                            | 300     | 300     |
| WEIGHT SPAN (FT):                              | 300     | 300     | WEIGHT SPAN (FT):                                          | 300     | 300     |
| RULING SPAN (FT):                              | 350-600 | 100-300 | RULING SPAN (FT):                                          | 350-600 | 100-300 |

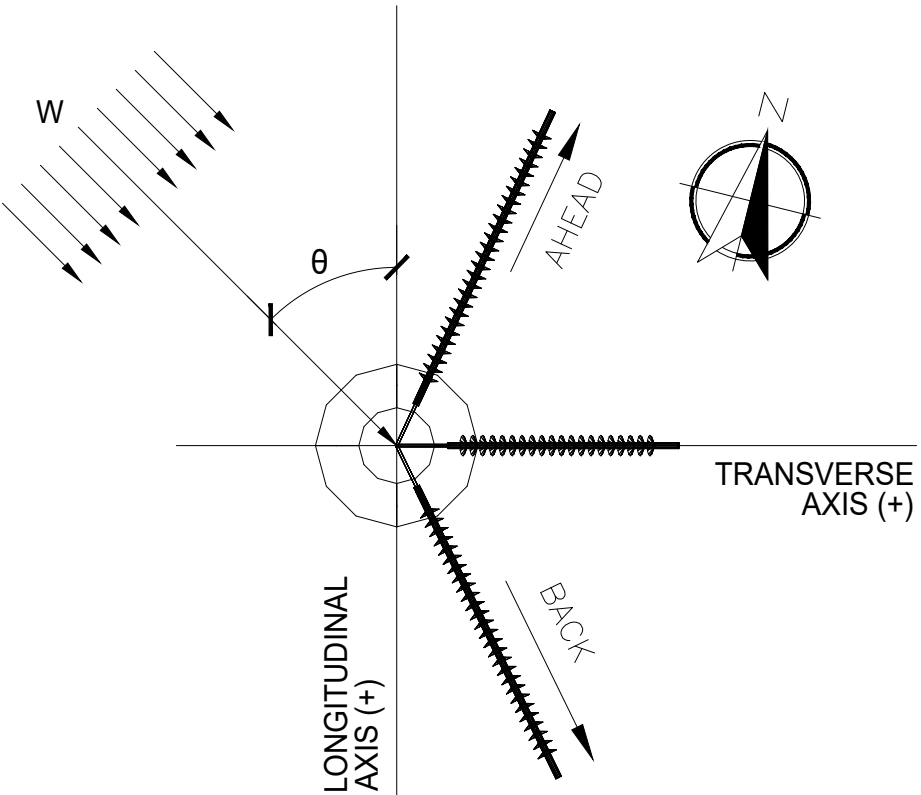
| LOAD CASES           | WIND (MPH) | WIND (PSF) | STRUCTURE WIND (MPH) | STRUCTURE WIND (PSF) | Θ  | ICE (IN) | TEMP (°F) | I/C/L | VERTICAL LOAD FACTOR | WIND LOAD FACTOR | WIRE LOAD FACTOR | VSA (K) | TSA (K) | LSA (K) | VSB (K) | TSB (K) | LSB (K) | VPA (K) | TPA (K) | LPA (K) | VPB (K) | TPB (K) | LPB (K) | W (PSF) | K    |
|----------------------|------------|------------|----------------------|----------------------|----|----------|-----------|-------|----------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| NESC 250B            | 59.3       | 9          | 59.3                 | 9                    | 90 | 0        | 30        | I     | 1.5                  | 2.5              | 1.65             | 0.42    | 2.20    | -2.99   | 0.42    | 0.70    | 0.75    | 1.52    | 5.87    | -7.45   | 1.52    | 2.87    | 2.98    | 22.50   | 1.50 |
| NESC 250C            | 120.1      | 36.9       | 120.1                | 36.9                 | 90 | 0        | 60        | I     | 1.1                  | 1.2              | 1.2              | 0.31    | 2.76    | -3.53   | 0.31    | 1.30    | 1.36    | 1.11    | 8.78    | -10.53  | 1.11    | 4.67    | 4.41    | 44.28   | 1.10 |
| NESC 250D            | 30         | 2.3        | 30                   | 2.3                  | 90 | 0        | 15        | I     | 1.1                  | 1.1              | 1                | 0.31    | 1.23    | -1.79   | 0.31    | 0.29    | 0.41    | 1.11    | 2.94    | -4.24   | 1.11    | 1.32    | 1.82    | 2.53    | 1.10 |
| DEFLECTION WITH WIND | 48.4       | 6          | 48.4                 | 6                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.28    | 1.05    | -1.49   | 0.28    | 0.25    | 0.30    | 1.01    | 2.87    | -3.93   | 1.01    | 1.29    | 1.58    | 6.00    | 1.00 |
| DEFLECTION           | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.28    | 0.96    | -1.42   | 0.28    | 0.15    | 0.22    | 1.01    | 2.48    | -3.69   | 1.01    | 0.99    | 1.48    | 0.00    | 1.00 |
| STRINGING            | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1.5                  | 1                | 1.5              | 0.42    | 1.44    | -2.14   | 0.42    | 0.22    | 0.33    | 1.52    | 3.72    | -5.54   | 1.52    | 1.49    | 2.22    | 0.00    | 1.50 |

- NOTES:
1. STRUCTURE SHALL BE HOT DIP GALVANIZED.
2. THE FABRICATION SHALL COMPLY WITH ALL DESIGN REQUIREMENTS OUTUNED WITHIN THE JEA GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REV 1.4.3 AND THE PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES FOR THE NEW WORLD 230KV SUBSTATION–TRANSMISSION PROJECT.
3. LOADS ARE ULTIMATE LOADS AND INCLUDE ALL LOAD FACTORS.
4. V, T, AND L ARE, RESPECTIVELY, THE VERTICAL, TRANSVERSE, AND LONGITUDINAL LOADS APPLIED IN KIPS.
5. S, P, ARE, RESPECTIVELY, THE OHGW, 230KV PHASE ATTACHMENTS.
6. A AND B ARE RESPECTIVELY, THE AHEAD SPAN, BACK SPAN.
7. W IS THE WIND LOAD APPLIED TO THE STRUCTURE IN PSF. A SHAPE FACTOR OF 1.0 SHALL BE APPLIED TO MEMBERS WITH 12 OR MORE SIDES. A SHAPE FACTOR OF 1.4 SHALL BE APPLIED TO ANY MEMBERS WITH LESS THAN 12 SIDES.
8. THETA (Θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL AXIS OF THE STRUCTURE AND THE WIND DIRECTION.
9. THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
10. STRUCTURES SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:

A. ALL CONDUCTORS AND SHIELD WIRES INSTALLED.  
B. ALL AHEAD SPANS ONLY INSTALLED.  
C. ALL BACK SPANS ONLY INSTALLED.
11. STRUCTURE SHALL BE DESIGNED FOR A MAXIMUM FOUNDATION ROTATION OF 2 DEGREES.
12. VANGS SHALL BE DESIGNED TO WITHSTAND THE RESULTANT LOAD 5 DEGREES EITHER SIDE OF THE INDICATED UNE ANGLE RANGE.
13. LIMIT POLE TOP DEFLECTION TO 2% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION WITH WIND LOAD CASE.
14. LIMIT POLE TOP DEFLECTION TO 1% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION LOAD CASE.
15. LIMIT POLE TOP DEFLECTION TO 8% OF THE STRUCTURES ABOVE GROUND HEIGHT AT NESC 250B AND 250C LOAD CASES.
16. I, C, AND L ARE, RESPECTIVELY, INITIAL, CREEP, AND LOAD WIRE CONDITIONS.



POLE TIP VIEW



LOADING TREE

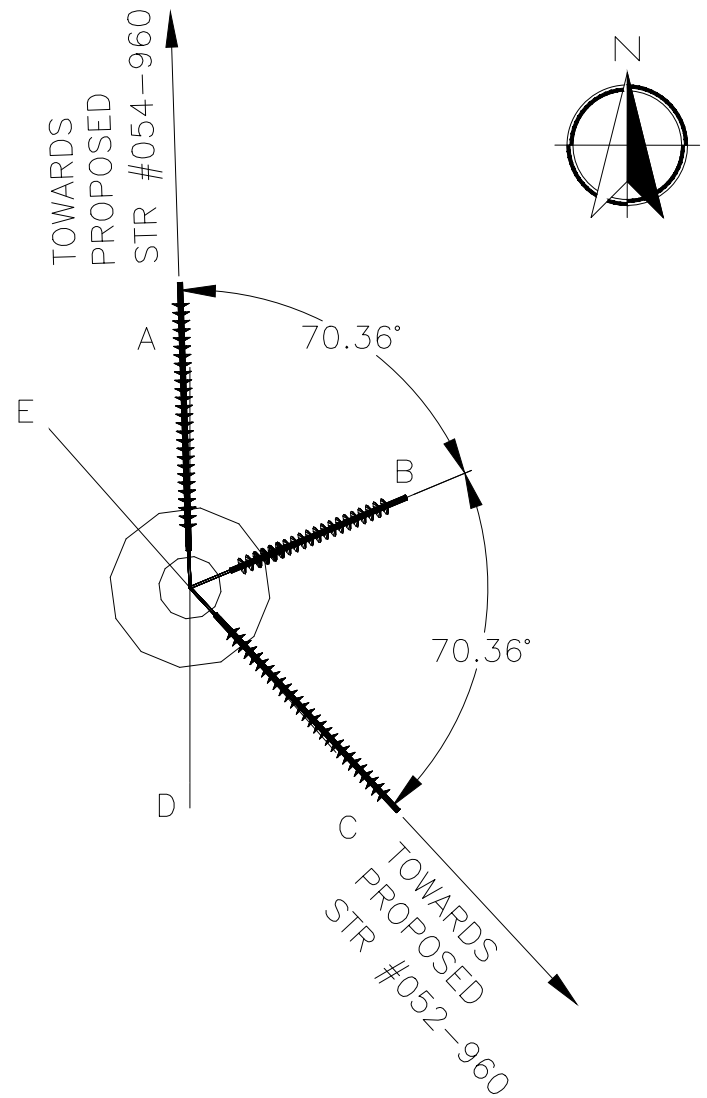
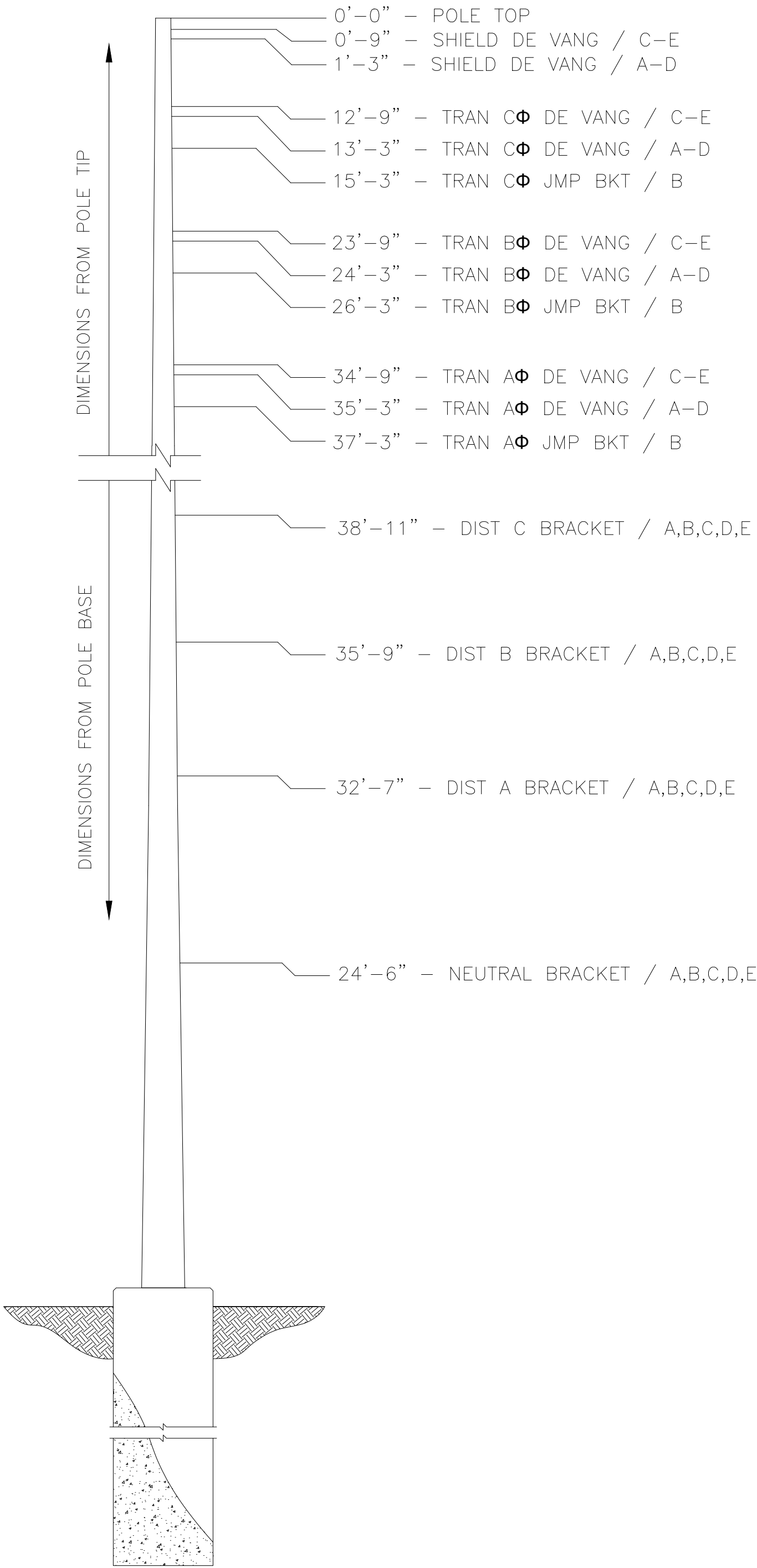
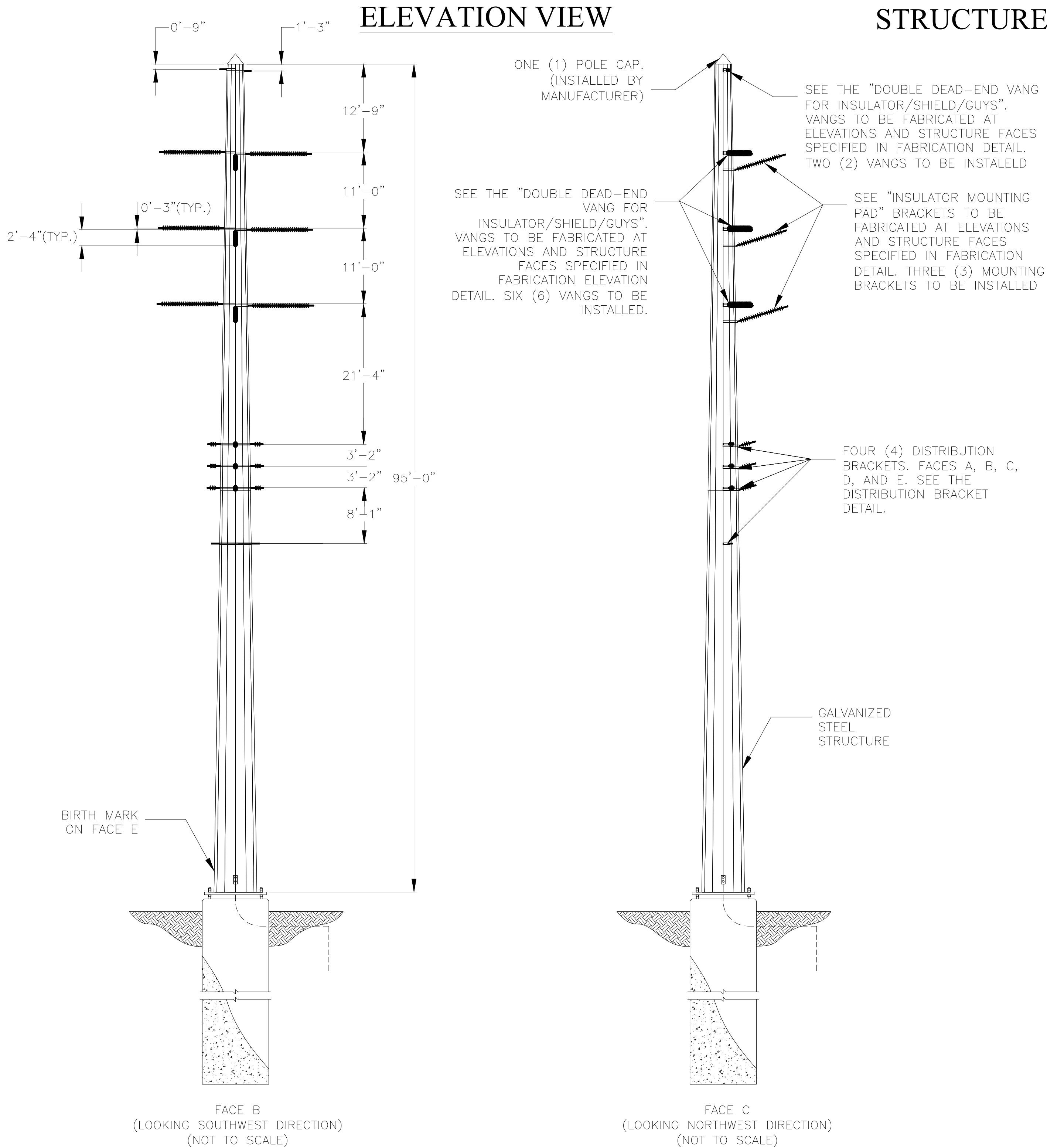
| NO. | REVISION                     |  |  |  |  | DATE     | BY  | CH'D | APP'D |  | REVISION                     |  |  |  |  | DATE     | BY | CH'D | APP'D | ENGINEERING RECORD |          |  | <br>BUILDING COMMUNITY | PROPOSED STR #049-960 LOAD DEVELOPMENT<br>FOR<br>NEW WORLD 230KV SUBSTATION - TRANSMISSION |          |                                              | PROJECT NO.<br>8011060 |                       |                        |
|-----|------------------------------|--|--|--|--|----------|-----|------|-------|--|------------------------------|--|--|--|--|----------|----|------|-------|--------------------|----------|--|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------|----------------------------------------------|------------------------|-----------------------|------------------------|
|     | ISSUED FOR 30% DESIGN REVIEW |  |  |  |  | 04/09/26 | AJS | JA   |       |  | ISSUED FOR 60% DESIGN REVIEW |  |  |  |  | 06/23/26 | VA | JA   |       |                    | STATUS   |  |                                                                                                             |                                                                                            |          |                                              | BY                     | DATE                  | DRAWING NO.<br>TR 1426 |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |                    | ASSIGNED |  |                                                                                                             |                                                                                            |          |                                              | PLAN                   | -                     |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |                    | DESIGNED |  |                                                                                                             |                                                                                            |          |                                              | AJS                    | 04/09/26              |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |                    | DRAWN    |  |                                                                                                             | SK                                                                                         | 04/28/26 |                                              |                        |                       |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |                    | CHECKED  |  |                                                                                                             | JA                                                                                         | 06/15/26 |                                              |                        |                       |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |                    | APP'D    |  |                                                                                                             | -                                                                                          | -        |                                              |                        |                       |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |                    |          |  |                                                                                                             |                                                                                            |          | SCALE: N.T.S. PROJECT DESIGN SEGMENT 8011060 |                        | SHEET NO.<br>04 OF 08 |                        |



STRUCTURE TYPE  
C1365\*1590 230KV, ONE CIRCUIT VERTICAL, DISTRIBUTION UNDERBUILD,  
SINGLE STEEL, DEAD-END TO DEAD-END W/POST,  
HEAVY ANGLE FULL TENSION TO FULL TENSION  
STRUCTURE 053-960

FABRICATION DETAIL

POLE TIP VIEW



GROUND NUT LOCATIONS

| FOR        | FROM POLE TOP | FROM POLE BASE |
|------------|---------------|----------------|
| SHIELD     | 1' 6"         | -              |
| TRANS CΦ   | 13' 6"        | -              |
| TRANS BΦ   | 24' 6"        | -              |
| TRANS AΦ   | 35' 6"        | -              |
| DIST CΦ    | -             | 37' 9"         |
| DIST BΦ    | -             | 34' 7"         |
| DIST AΦ    | -             | 31' 5"         |
| NEUTRAL    | -             | 24' 9"         |
| GROUND ROD | -             | 1' - 0"        |

| NO. | REVISION |     |      |       |  | REVISION |    |      |       |  | ENGINEERING |      | RECORD   |  |  | PROJECT NO.<br>8011060 |
|-----|----------|-----|------|-------|--|----------|----|------|-------|--|-------------|------|----------|--|--|------------------------|
|     | DATE     | BY  | CH'D | APP'D |  | DATE     | BY | CH'D | APP'D |  | STATUS      | BY   | DATE     |  |  |                        |
|     | 04/09/26 | AJS | JA   |       |  |          |    |      |       |  | ASSIGNED    | PLAN | -        |  |  | DRAWING NO.<br>TR 1426 |
|     | 06/23/26 | VA  | JA   |       |  |          |    |      |       |  | DESIGNED    | AJS  | 04/09/26 |  |  |                        |
|     |          |     |      |       |  |          |    |      |       |  | DRAWN       | SK   | 04/28/26 |  |  | SHEET NO.<br>05 OF 08  |
|     |          |     |      |       |  |          |    |      |       |  | CHECKED     | JA   | 06/15/26 |  |  |                        |
|     |          |     |      |       |  |          |    |      |       |  | APP'D       | -    | -        |  |  |                        |



STRUCTURE NUMBER: 053-954

STRUCTURE TYPE: ONE CIRCUIT VERTICAL, WITH DISTRIBUTION UNDERBUILD, SINGLE STEEL DEAD-END TO DEAD-END W/POST, HEAVY ANGLE (30 - 50) FULL TENSION TO FULL TENSION

|                                                |         |         |                                                            |         |         |
|------------------------------------------------|---------|---------|------------------------------------------------------------|---------|---------|
| 3 NO. 6 ALUMOWELD, 0.178 LB/FT, 0.512 IN DIA.  | (SA)    | (SB)    | 1590 KCMIL 54/19 "FALCON" ACSR, 2.041 LB/FT, 1.544 IN DIA. | (PA)    | (PB)    |
| TENSION CONTROL T/I/W 30/0/9.0, INITAL (LBS.): | 2,000   | 2,000   | TENSION CONTROL T/I/W 30/0/9.0, INITAL (LBS.):             | 15,000  | 10,000  |
| WIND SPAN (FT):                                | 300     | 300     | WIND SPAN (FT):                                            | 300     | 300     |
| WEIGHT SPAN (FT):                              | 300     | 300     | WEIGHT SPAN (FT):                                          | 300     | 300     |
| RULING SPAN (FT):                              | 350-600 | 350-600 | RULING SPAN (FT):                                          | 350-600 | 350-600 |

|                                             |         |         |                                                       |         |         |
|---------------------------------------------|---------|---------|-------------------------------------------------------|---------|---------|
| ALLIANCE, 0.232 LB/FT, 0.563 IN DIA.        | (SA)    | (SB)    | 636 KCMIL 37 "ORCHID" AAC, 0.596 LB/FT, 0.918 IN DIA. | (PA)    | (PB)    |
| TENSION CONTROL T/I/W 30/0/0.0, CREEP (%.): | 33      | 33      | TENSION CONTROL T/I/W 30/0/0.0, INITIAL (%):          | 33.3    | 33.3    |
| WIND SPAN (FT):                             | 300     | 300     | WIND SPAN (FT):                                       | 300     | 300     |
| WEIGHT SPAN (FT):                           | 300     | 300     | WEIGHT SPAN (FT):                                     | 300     | 300     |
| RULING SPAN (FT):                           | 350-600 | 350-600 | RULING SPAN (FT):                                     | 350-600 | 350-600 |

| LOAD CASES           | WIND (MPH) | WIND (PSF) | STRUCTURE WIND (MPH) | STRUCTURE WIND (PSF) | Θ  | ICE (IN) | TEMP (°F) | I/C/L | VERTICAL LOAD FACTOR | WIND LOAD FACTOR | WIRE LOAD FACTOR | VSA (K) | TSA (K) | LSA (K) | VSB (K) | TSB (K) | LSB (K) | VPA (K) | TPA (K) | LPA (K) | VPB (K) | TPB (K) | LPB (K) | W (PSF) | K    |
|----------------------|------------|------------|----------------------|----------------------|----|----------|-----------|-------|----------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| NESC 250B            | 59.3       | 9          | 59.3                 | 9                    | 90 | 0        | 30        | I     | 1.5                  | 2.5              | 1.65             | 0.42    | 1.59    | -3.22   | 0.42    | 1.59    | 3.22    | 1.52    | 11.32   | -24.14  | 1.52    | 7.83    | 16.09   | 22.50   | 1.50 |
| NESC 250C            | 120.1      | 36.9       | 120.1                | 36.9                 | 90 | 0        | 60        | I     | 1.1                  | 1.2              | 1.2              | 0.31    | 2.03    | -3.80   | 0.31    | 2.03    | 3.80    | 1.11    | 11.32   | -22.21  | 1.11    | 9.48    | 17.95   | 44.28   | 1.10 |
| NESC 250D            | 30         | 2.3        | 30                   | 2.3                  | 90 | 0        | 15        | I     | 1.1                  | 1.1              | 1                | 0.31    | 0.86    | -1.93   | 0.31    | 0.86    | 1.93    | 1.11    | 6.86    | -15.62  | 1.11    | 4.57    | 10.33   | 2.53    | 1.10 |
| DEFLECTION WITH WIND | 48.4       | 6          | 48.4                 | 6                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.28    | 0.75    | -1.60   | 0.28    | 0.75    | 1.60    | 1.01    | 5.55    | -12.29  | 1.01    | 3.75    | 8.13    | 6.00    | 1.00 |
| DEFLECTION           | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.28    | 0.66    | -1.53   | 0.28    | 0.66    | 1.53    | 1.01    | 5.17    | -11.95  | 1.01    | 3.35    | 7.74    | 0.00    | 1.00 |
| STRINGING            | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1.5                  | 1                | 1.5              | 0.42    | 1.00    | -2.30   | 0.42    | 1.00    | 2.30    | 1.52    | 7.76    | -17.92  | 1.52    | 5.03    | 11.62   | 0.00    | 1.50 |

| LOAD CASES           | WIND (MPH) | WIND (PSF) | STRUCTURE WIND (MPH) | STRUCTURE WIND (PSF) | Θ  | ICE (IN) | TEMP (°F) | I/C/L | VERTICAL LOAD FACTOR | WIND LOAD FACTOR | WIRE LOAD FACTOR | VDA (K) | TDA (K) | LDA (K) | VDB (K) | TDB (K) | LDB (K) | VNA (K) | TNA (K) | LNA (K) | VNB (K) | TNB (K) | LNB (K) | LS (K) | LP (K) | W (PSF) | K    |
|----------------------|------------|------------|----------------------|----------------------|----|----------|-----------|-------|----------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|------|
| NESC 250B            | 59.3       | 9          | 59.3                 | 9                    | 90 | 0        | 30        | I     | 1.5                  | 2.5              | 1.65             | 0.87    | 3.71    | -7.38   | 0.87    | 3.71    | 7.38    | 0.44    | 2.60    | -5.27   | 0.44    | 2.60    | 5.27    | 0      | 0      | 22.50   | 1.50 |
| NESC 250C            | 120.1      | 36.9       | 120.1                | 36.9                 | 90 | 0        | 60        | I     | 1.1                  | 1.2              | 1.2              | 0.64    | 4.76    | -8.64   | 0.64    | 4.76    | 8.64    | 0.32    | 3.07    | -5.66   | 0.32    | 3.07    | 5.66    | 0      | 0      | 44.28   | 1.10 |
| NESC 250D            | 30         | 2.3        | 30                   | 2.3                  | 90 | 0        | 15        | I     | 1.1                  | 1.1              | 1                | 0.64    | 1.87    | -4.18   | 0.64    | 1.87    | 4.18    | 0.32    | 1.36    | -3.05   | 0.32    | 1.36    | 3.05    | 0      | 0      | 2.53    | 1.10 |
| DEFLECTION WITH WIND | 48.4       | 6          | 48.4                 | 6                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.58    | 1.64    | -3.47   | 0.58    | 1.64    | 3.47    | 0.29    | 1.18    | -2.52   | 0.29    | 1.18    | 2.52    | 0      | 0      | 6       | 1    |
| DEFLECTION           | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.58    | 1.33    | -3.08   | 0.58    | 1.33    | 3.08    | 0.29    | 1.00    | -2.31   | 0.29    | 1.00    | 2.31    | 0      | 0      | 0       | 1    |
| STRINGING            | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1.5                  | 1                | 1.5              | 0.87    | 2.00    | -4.62   | 0.87    | 2.00    | 4.62    | 0.44    | 1.50    | -3.46   | 0.44    | 1.50    | 3.46    | 0      | 0      | 0       | 1.50 |

- NOTES:
1. STRUCTURE SHALL BE HOT DIP GALVANIZED.

2. THE FABRICATION SHALL COMPLY WITH ALL DESIGN REQUIREMENTS OUTUNED WITHIN THE JEA GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REV 1.4.3 AND THE PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES FOR THE NEW WORLD 230KV SUBSTATION–TRANSMISSION PROJECT.

3. LOADS ARE ULTIMATE LOADS AND INCLUDE ALL LOAD FACTORS.

4. V, T, AND L ARE, RESPECTIVELY, THE VERTICAL, TRANSVERSE, AND LONGITUDINAL LOADS APPLIED IN KIPS.

5. S, P, D, N. ARE, RESPECTIVELY, THE OHGW, 230KV PHASE ATTACHMENTS, 26.4 KV DISTRIBUTION, NEUTRAL.

6. A AND B ARE RESPECTIVELY, THE AHEAD SPAN, BACK SPAN.

7. W IS THE WIND LOAD APPLIED TO THE STRUCTURE IN PSF. A SHAPE FACTOR OF 1.0 SHALL BE APPLIED TO MEMBERS WITH 12 OR MORE SIDES. A SHAPE FACTOR OF 1.4 SHALL BE APPLIED TO ANY MEMBERS WITH LESS THAN 12 SIDES.

8. THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL AXIS OF THE STRUCTURE AND THE WIND DIRECTION.

9. THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.

10. STRUCTURES SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:

A. ALL CONDUCTORS AND SHIELD WIRES INSTALLED.

B. ALL AHEAD SPANS ONLY INSTALLED.

C. ALL BACK SPANS ONLY INSTALLED.

11. STRUCTURE SHALL BE DESIGNED FOR A MAXIMUM FOUNDATION ROTATION OF 2 DEGREES.

12. VANGS SHALL BE DESIGNED TO WITHSTAND THE RESULTANT LOAD 5 DEGREES EITHER SIDE OF THE INDICATED UNE ANGLE RANGE.

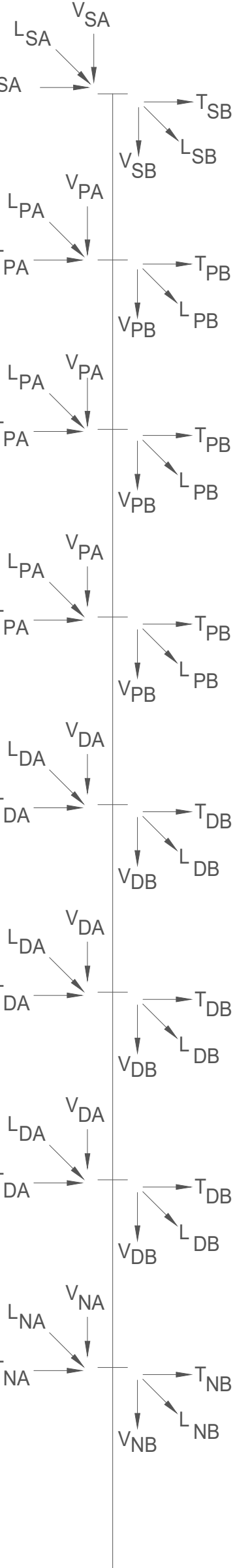
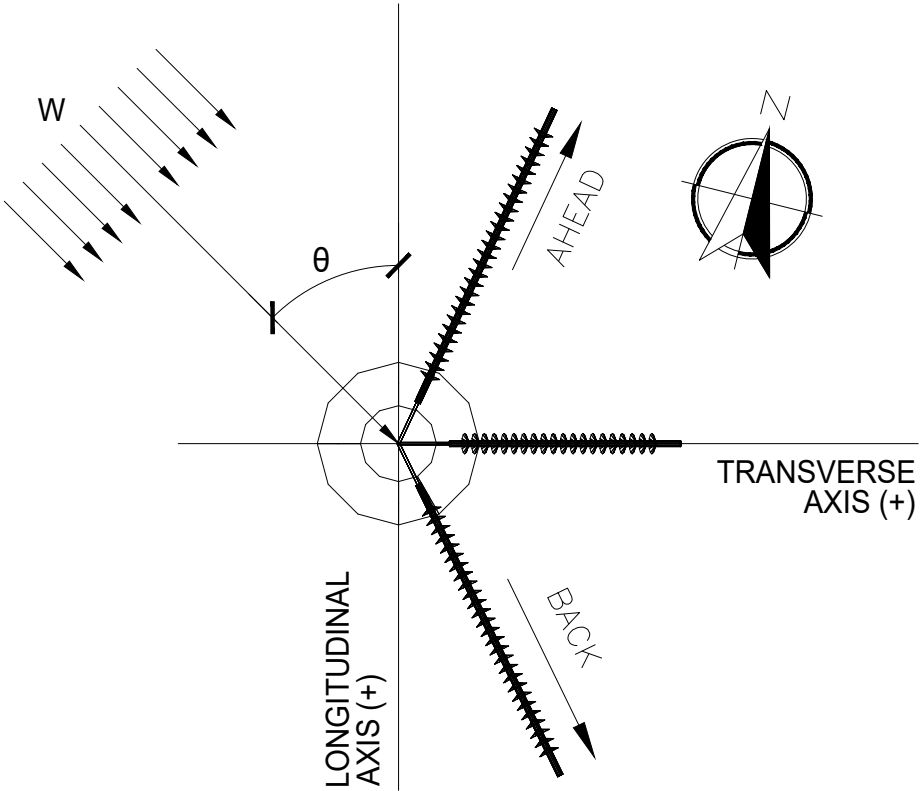
13. LIMIT POLE TOP DEFLECTION TO 2% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION WITH WIND LOAD CASE.

14. LIMIT POLE TOP DEFLECTION TO 1% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION LOAD CASE.

15. LIMIT POLE TOP DEFLECTION TO 8% OF THE STRUCTURES ABOVE GROUND HEIGHT AT NESC 250B AND 250C LOAD CASES.

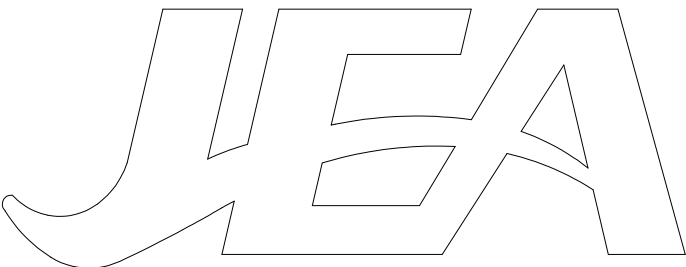
16. I, C, AND L ARE, RESPECTIVELY, INITIAL, CREEP, AND LOAD WIRE CONDITIONS.

POLE TIP VIEW



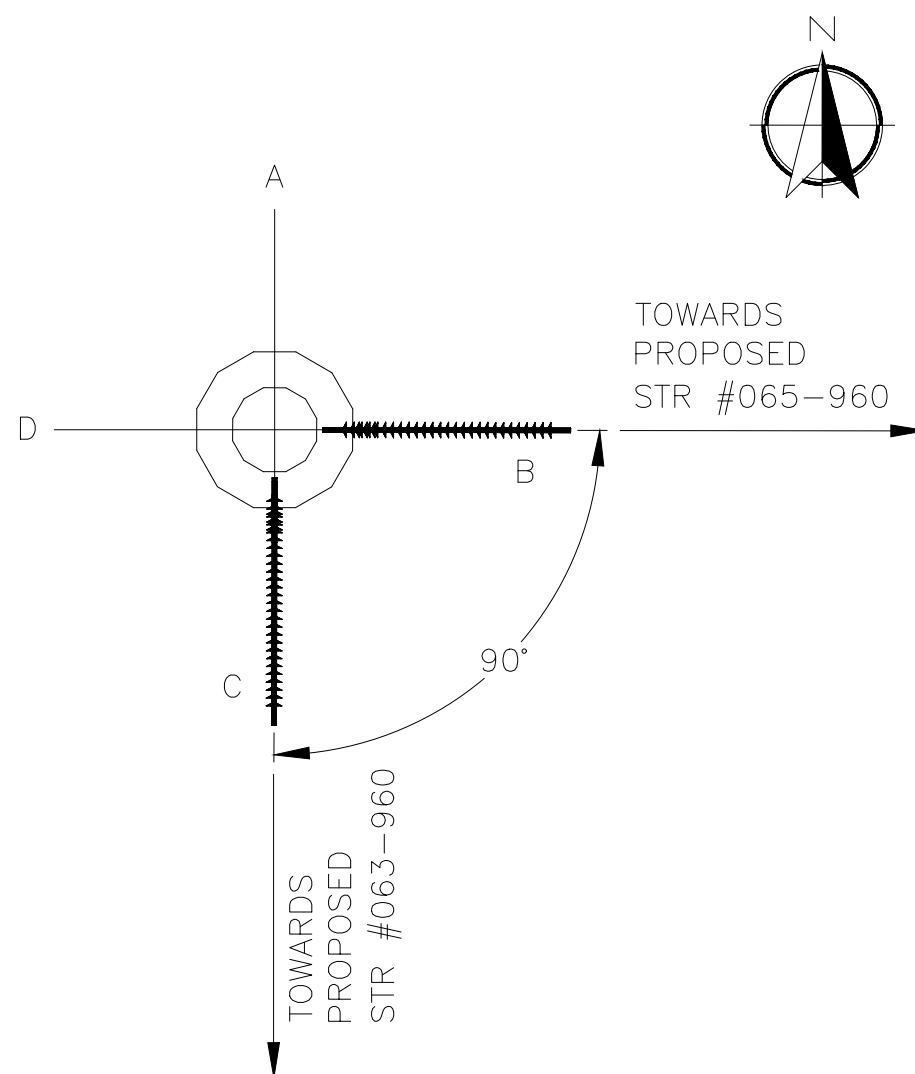
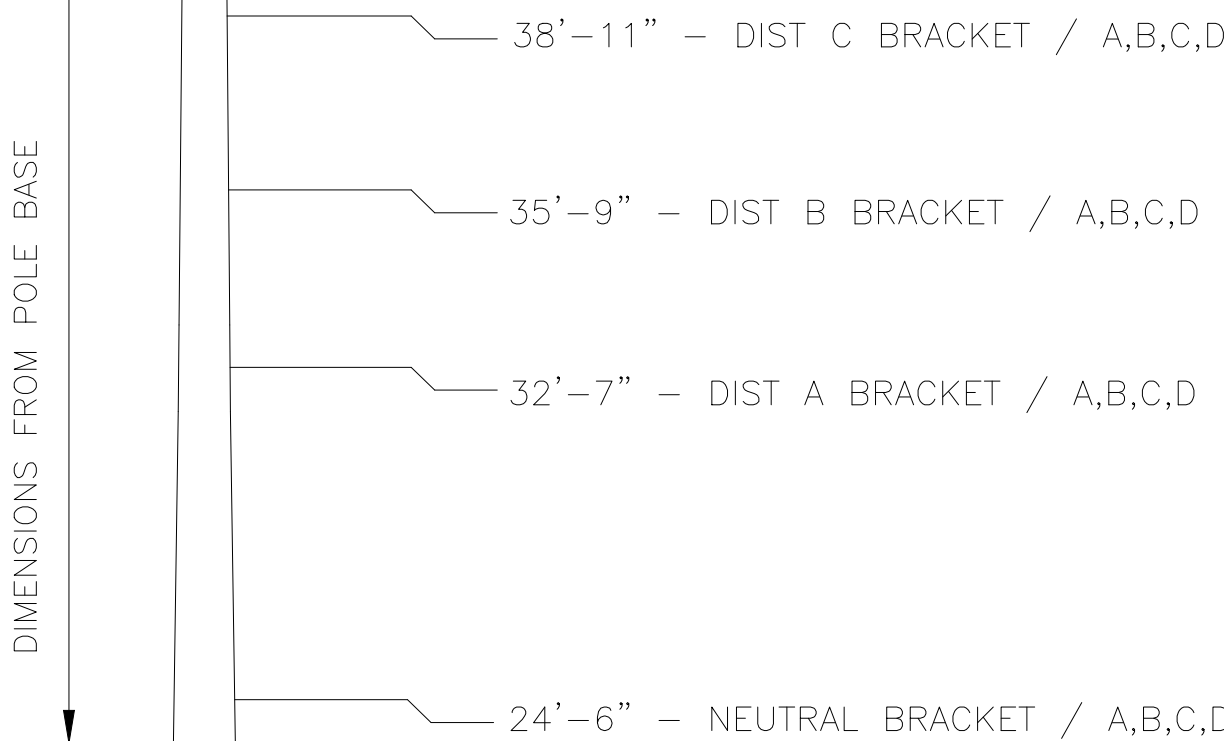
LOADING TREE

| NO. | REVISION                     |  |  |  |  | DATE     | BY  | CH'D | APP'D |  | REVISION                     |  |  |  |  | DATE     | BY | CH'D | APP'D | ENGINEERING |        |     | RECORD   |      |                        |  <div>BUILDING COMMUNITY</div> | PROPOSED STR #053-960 LOAD DEVELOPMENT<br>FOR<br>NEW WORLD 230KV SUBSTATION - TRANSMISSION |  |          |  |  |  | PROJECT NO.<br>8011060 |
|-----|------------------------------|--|--|--|--|----------|-----|------|-------|--|------------------------------|--|--|--|--|----------|----|------|-------|-------------|--------|-----|----------|------|------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|----------|--|--|--|------------------------|
|     | ISSUED FOR 30% DESIGN REVIEW |  |  |  |  | 04/09/26 | AJS | JA   |       |  | ISSUED FOR 60% DESIGN REVIEW |  |  |  |  | 06/23/26 | VA | JA   |       |             | STATUS |     | BY       | DATE | DRAWING NO.<br>TR 1426 |                                                                                                                     |                                                                                            |  |          |  |  |  |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       | DESIGNED    |        | AJS | 04/09/26 |      |                        |                                                                                                                     |                                                                                            |  |          |  |  |  |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       | DRAWN       |        | SK  | 04/28/26 |      |                        |                                                                                                                     |                                                                                            |  |          |  |  |  |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       | CHECKED     |        | JA  | 06/15/26 |      |                        |                                                                                                                     |                                                                                            |  |          |  |  |  |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       | APP'D       |        | -   | -        |      |                        |                                                                                                                     |                                                                                            |  |          |  |  |  |                        |
|     |                              |  |  |  |  |          |     |      |       |  |                              |  |  |  |  |          |    |      |       |             |        |     |          |      | SCALE: N.T.S           |                                                                                                                     | PROJECT DESIGN SEGMENT 8011060                                                             |  | 06 OF 08 |  |  |  |                        |





C1365\*1590 230KV, ONE CIRCUIT VERTICAL, DISTRIBUTION UNDERBUILD,  
SINGLE STEEL, DEAD-END TO DEAD-END W/POST,  
HEAVY ANGLE FULL TENSION TO FULL TENSION



| FOR        | FROM POLE TOP | FROM POLE BASE |
|------------|---------------|----------------|
| SHIELD     | 1' 6"         | —              |
| TRANS CΦ   | 13' 6"        | —              |
| TRANS BΦ   | 24' 6"        | —              |
| TRANS AΦ   | 35' 6"        | —              |
| DIST CΦ    | —             | 37' 9"         |
| DIST BΦ    | —             | 34' 7"         |
| DIST AΦ    | —             | 31' 5"         |
| NEUTRAL    | —             | 24' 9"         |
| GROUND ROD | —             | 1' — 0"        |

7 OF 08



STRUCTURE NUMBER: 064-960

STRUCTURE TYPE: ONE CIRCUIT VERTICAL, WITH DISTRIBUTION UNDERBUILD, SINGLE STEEL DEAD-END TO DEAD-END W/POST, HEAVY ANGLE (80 - 100) FULL TENSION TO FULL TENSION

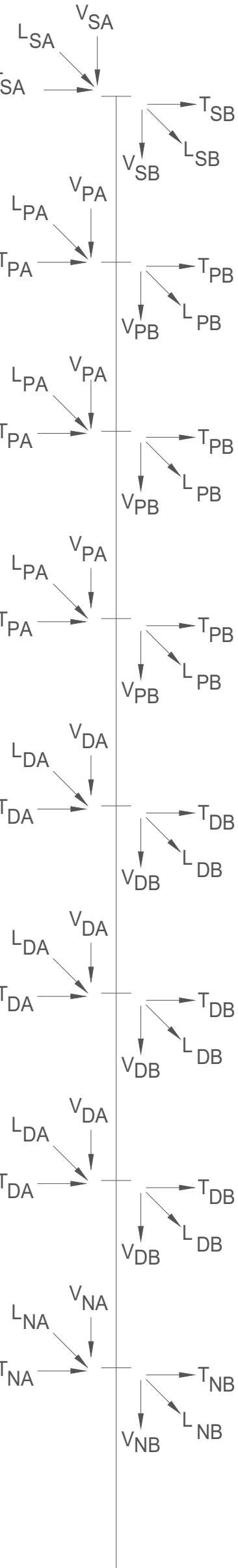
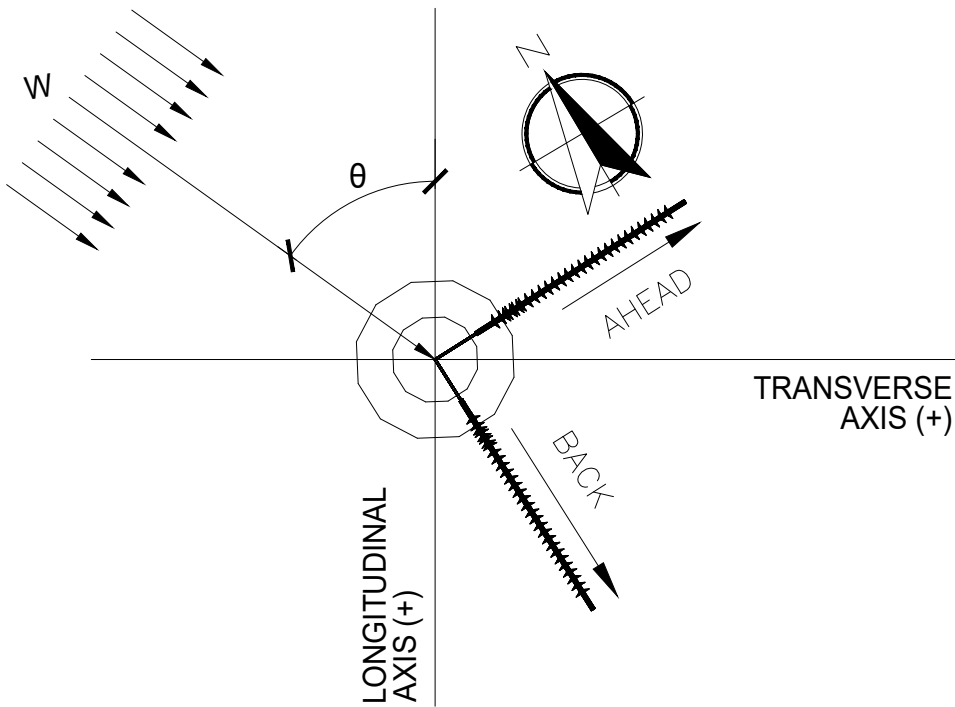
|                                                |         |         |                                                            |         |         |
|------------------------------------------------|---------|---------|------------------------------------------------------------|---------|---------|
| 3 NO. 6 ALUMOWELD, 0.178 LB/FT, 0.512 IN DIA.  | (SA)    | (SB)    | 1590 KCMIL 54/19 "FALCON" ACSR, 2.041 LB/FT, 1.544 IN DIA. | (PA)    | (PB)    |
| TENSION CONTROL T/I/W 30/0/9.0, INITAL (LBS.): | 2,000   | 2,000   | TENSION CONTROL T/I/W 30/0/9.0, INITAL (LBS.):             | 8,000   | 15,000  |
| WIND SPAN (FT):                                | 300     | 300     | WIND SPAN (FT):                                            | 300     | 300     |
| WEIGHT SPAN (FT):                              | 300     | 300     | WEIGHT SPAN (FT):                                          | 300     | 300     |
| RULING SPAN (FT):                              | 100-350 | 350-600 | RULING SPAN (FT):                                          | 100-350 | 350-600 |
|                                                |         |         |                                                            |         |         |
| ALLIANCE, 0.232 LB/FT, 0.563 IN DIA.           | (SA)    | (SB)    | 636 KCMIL 37 "ORCHID" AAC, 0.596 LB/FT, 0.918 IN DIA.      | (PA)    | (PB)    |
| TENSION CONTROL T/I/W 30/0/0.0, CREEP (%.):    | 33      | 33      | TENSION CONTROL T/I/W 30/0/0.0, INITAL (%):                | 33.3    | 33.3    |
| WIND SPAN (FT):                                | 300     | 300     | WIND SPAN (FT):                                            | 300     | 300     |
| WEIGHT SPAN (FT):                              | 300     | 300     | WEIGHT SPAN (FT):                                          | 300     | 300     |
| RULING SPAN (FT):                              | 100-350 | 350-600 | RULING SPAN (FT):                                          | 100-350 | 350-600 |

| LOAD CASES           | WIND (MPH) | WIND (PSF) | STRUCTURE WIND (MPH) | STRUCTURE WIND (PSF) | Θ  | ICE (IN) | TEMP (°F) | I/C/L | VERTICAL LOAD FACTOR | WIND LOAD FACTOR | WIRE LOAD FACTOR | VSA (K) | TSA (K) | LSA (K) | VSB (K) | TSB (K) | LSB (K) | VPA (K) | TPA (K) | LPA (K) | VPB (K) | TPB (K) | LPB (K) | W (PSF) | K    |
|----------------------|------------|------------|----------------------|----------------------|----|----------|-----------|-------|----------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| NESC 250B            | 59.3       | 9          | 59.3                 | 9                    | 90 | 0        | 30        | I     | 1.5                  | 2.5              | 1.65             | 0.42    | 2.72    | -2.62   | 0.42    | 2.72    | 2.62    | 1.52    | 10.98   | -10.47  | 1.52    | 19.81   | 19.61   | 22.50   | 1.50 |
| NESC 250C            | 120.1      | 36.9       | 120.1                | 36.9                 | 90 | 0        | 60        | I     | 1.1                  | 1.2              | 1.2              | 0.31    | 2.81    | -2.51   | 0.31    | 3.37    | 3.09    | 1.11    | 12.04   | -10.70  | 1.11    | 19.13   | 18.05   | 44.28   | 1.10 |
| NESC 250D            | 30         | 2.3        | 30                   | 2.3                  | 90 | 0        | 15        | I     | 1.1                  | 1.1              | 1                | 0.31    | 1.65    | -1.69   | 0.31    | 1.54    | 1.57    | 1.11    | 7.37    | -7.53   | 1.11    | 12.35   | 12.69   | 2.53    | 1.10 |
| DEFLECTION WITH WIND | 48.4       | 6          | 48.4                 | 6                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.28    | 1.36    | -1.35   | 0.28    | 1.31    | 1.30    | 1.01    | 5.02    | -4.96   | 1.01    | 9.87    | 9.98    | 6.00    | 1.00 |
| DEFLECTION           | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.28    | 1.30    | -1.35   | 0.28    | 1.20    | 1.25    | 1.01    | 4.57    | -4.73   | 1.01    | 9.38    | 9.71    | 0.00    | 1.00 |
| STRINGING            | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1.5                  | 1                | 1.5              | 0.42    | 1.95    | -2.02   | 0.42    | 1.81    | 1.87    | 1.52    | 6.85    | -7.09   | 1.52    | 14.06   | 14.56   | 0.00    | 1.50 |

| LOAD CASES           | WIND (MPH) | WIND (PSF) | STRUCTURE WIND (MPH) | STRUCTURE WIND (PSF) | Θ  | ICE (IN) | TEMP (°F) | I/C/L | VERTICAL LOAD FACTOR | WIND LOAD FACTOR | WIRE LOAD FACTOR | VDA (K) | TDA (K) | LDA (K) | VDB (K) | TDB (K) | LDB (K) | VNA (K) | TNA (K) | LNA (K) | VNB (K) | TNB (K) | LNB (K) | LS (K) | LP (K) | W (PSF) | K    |
|----------------------|------------|------------|----------------------|----------------------|----|----------|-----------|-------|----------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|------|
| NESC 250B            | 59.3       | 9          | 59.3                 | 9                    | 90 | 0        | 30        | I     | 1.5                  | 2.5              | 1.65             | 0.98    | 6.94    | -5.48   | 0.98    | 7.25    | 5.80    | 0.44    | 4.14    | -3.96   | 0.44    | 4.45    | 4.28    | 0      | 0      | 22.50   | 1.50 |
| NESC 250C            | 120.1      | 36.9       | 120.1                | 36.9                 | 90 | 0        | 60        | I     | 1.1                  | 1.2              | 1.2              | 0.72    | 9.46    | -6.45   | 0.72    | 10.50   | 7.53    | 0.32    | 4.10    | -3.60   | 0.32    | 5.06    | 4.60    | 0      | 0      | 44.28   | 1.10 |
| NESC 250D            | 30         | 2.3        | 30                   | 2.3                  | 90 | 0        | 15        | I     | 1.1                  | 1.1              | 1                | 0.72    | 3.50    | -3.43   | 0.72    | 3.46    | 3.39    | 0.32    | 2.43    | -2.48   | 0.32    | 2.43    | 2.48    | 0      | 0      | 2.53    | 1.10 |
| DEFLECTION WITH WIND | 48.4       | 6          | 48.4                 | 6                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.65    | 2.85    | -2.50   | 0.65    | 3.05    | 2.70    | 0.29    | 1.94    | -1.92   | 0.29    | 2.07    | 2.05    | 0      | 0      | 6       | 1    |
| DEFLECTION           | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1                    | 1                | 1                | 0.65    | 2.23    | -2.31   | 0.65    | 2.35    | 2.43    | 0.29    | 1.78    | -1.85   | 0.29    | 1.81    | 1.88    | 0      | 0      | 0       | 1    |
| STRINGING            | 0          | 0          | 0                    | 0                    | 90 | 0        | 60        | I     | 1.5                  | 1                | 1.5              | 0.98    | 3.35    | -3.47   | 0.98    | 3.53    | 3.65    | 0.44    | 2.68    | -2.77   | 0.44    | 2.72    | 2.82    | 0      | 0      | 0       | 1.50 |

- NOTES:
- STRUCTURE SHALL BE HOT DIP GALVANIZED.
  - THE FABRICATION SHALL COMPLY WITH ALL DESIGN REQUIREMENTS OUTUNED WITHIN THE JEA GENERAL TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES, REV 1.4.3 AND THE PROJECT SPECIFIC TECHNICAL SPECIFICATIONS FOR THE PURCHASE OF STEEL TRANSMISSION POLES FOR THE NEW WORLD 230KV SUBSTATION-TRANSMISSION PROJECT.
  - LOADS ARE ULTIMATE LOADS AND INCLUDE ALL LOAD FACTORS.
  - V, T, AND L ARE, RESPECTIVELY, THE VERTICAL, TRANSVERSE, AND LONGITUDINAL LOADS APPLIED IN KIPS.
  - S, P, D, N. ARE, RESPECTIVELY, THE OHGW, 230KV PHASE ATTACHMENTS, 26.4 KV DISTRIBUTION, NEUTRAL.
  - A AND B ARE RESPECTIVELY, THE AHEAD SPAN, BACK SPAN.
  - W IS THE WIND LOAD APPLIED TO THE STRUCTURE IN PSF. A SHAPE FACTOR OF 1.0 SHALL BE APPLIED TO MEMBERS WITH 12 OR MORE SIDES. A SHAPE FACTOR OF 1.4 SHALL BE APPLIED TO ANY MEMBERS WITH LESS THAN 12 SIDES.
  - THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL AXIS OF THE STRUCTURE AND THE WIND DIRECTION.
  - THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
  - STRUCTURES SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:
    - ALL CONDUCTORS AND SHIELD WIRES INSTALLED.
    - ALL AHEAD SPANS ONLY INSTALLED.
    - ALL BACK SPANS ONLY INSTALLED.
  - STRUCTURE SHALL BE DESIGNED FOR A MAXIMUM FOUNDATION ROTATION OF 2 DEGREES.
  - VANGS SHALL BE DESIGNED TO WITHSTAND THE RESULTANT LOAD 5 DEGREES EITHER SIDE OF THE INDICATED UNE ANGLE RANGE.
  - LIMIT POLE TOP DEFLECTION TO 2% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION WITH WIND LOAD CASE.
  - LIMIT POLE TOP DEFLECTION TO 1% OF THE STRUCTURES ABOVE GROUND HEIGHT AT DEFLECTION LOAD CASE.
  - LIMIT POLE TOP DEFLECTION TO 8% OF THE STRUCTURES ABOVE GROUND HEIGHT AT NESC 250B AND 250C LOAD CASES.
  - I, C, AND L ARE, RESPECTIVELY, INITIAL, CREEP, AND LOAD WIRE CONDITIONS.

POLE TIP VIEW



LOADING TREE

| NO. | REVISION                     | DATE     | BY  | CH'D | APP'D |  | REVISION | DATE | BY | CH'D | APP'D | ENGINEERING RECORD |      |          | <br>BUILDING COMMUNITY | PROPOSED STR #064-960 LOAD DEVELOPMENT<br>FOR<br>NEW WORLD 230KV SUBSTATION - TRANSMISSION |                                |  | PROJECT NO. |
|-----|------------------------------|----------|-----|------|-------|--|----------|------|----|------|-------|--------------------|------|----------|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------|--|-------------|
|     | ISSUED FOR 30% DESIGN REVIEW | 04/09/26 | AJS | JA   |       |  |          |      |    |      |       | STATUS             | BY   | DATE     |                                                                                                             |                                                                                            |                                |  | 8011060     |
|     | ISSUED FOR 60% DESIGN REVIEW | 06/23/26 | VA  | JA   |       |  |          |      |    |      |       | ASSIGNED           | PLAN | -        |                                                                                                             |                                                                                            |                                |  | DRAWING NO. |
|     |                              |          |     |      |       |  |          |      |    |      |       | DESIGNED           | AJS  | 04/09/26 |                                                                                                             | TR 1426                                                                                    |                                |  |             |
|     |                              |          |     |      |       |  |          |      |    |      |       | DRAWN              | SK   | 04/28/26 |                                                                                                             | SHEET NO.                                                                                  |                                |  |             |
|     |                              |          |     |      |       |  |          |      |    |      |       | CHECKED            | JA   | 06/15/26 |                                                                                                             |                                                                                            |                                |  |             |
|     |                              |          |     |      |       |  |          |      |    |      |       | APP'D              | -    | -        |                                                                                                             |                                                                                            | 08 OF 08                       |  |             |
|     |                              |          |     |      |       |  |          |      |    |      |       |                    |      |          | SCALE:                                                                                                      | N.T.S                                                                                      | PROJECT DESIGN SEGMENT 8011060 |  |             |

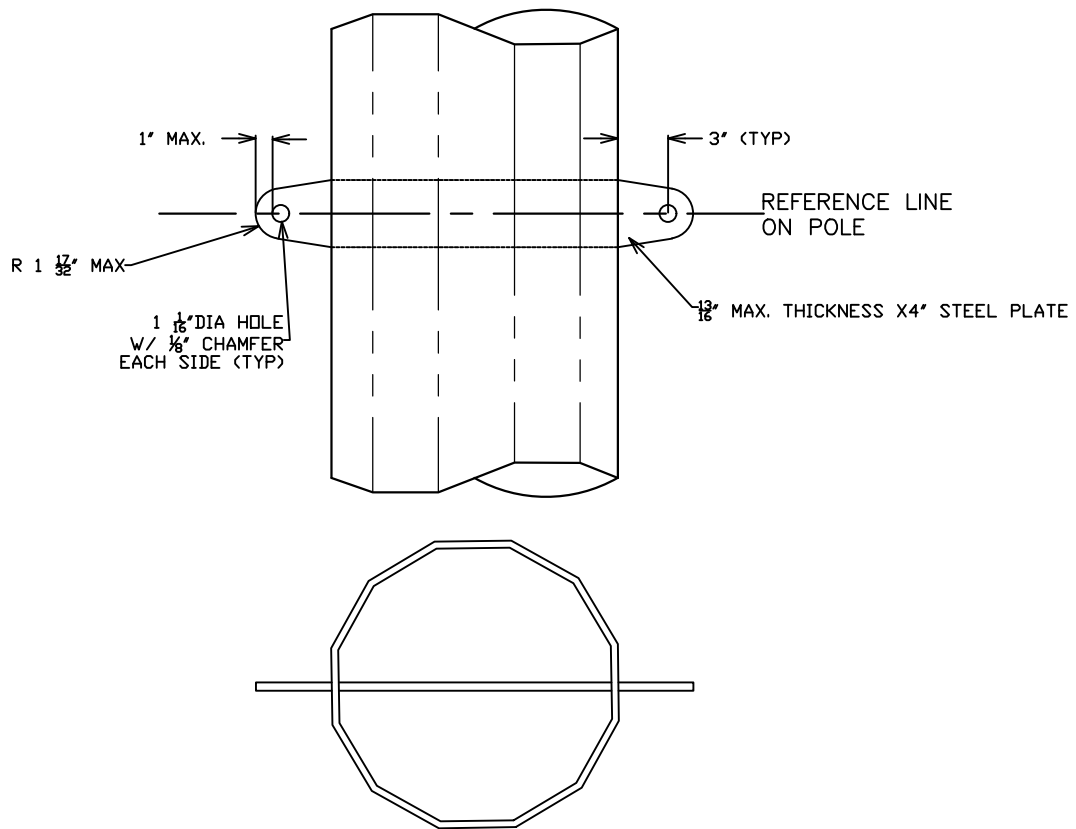


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## **8. POLE ATTACHMENT DETAILS**

- 1) Double Dead End Vang for Insulators/Shield/Guys
- 2) Grounding Nut/Pad Attachment Details
- 3) Insulator Mounting Pad
- 4) Distribution Bracket

# DOUBLE DEADEND VANG FOR INSULATORS/SHIELD/GUYS



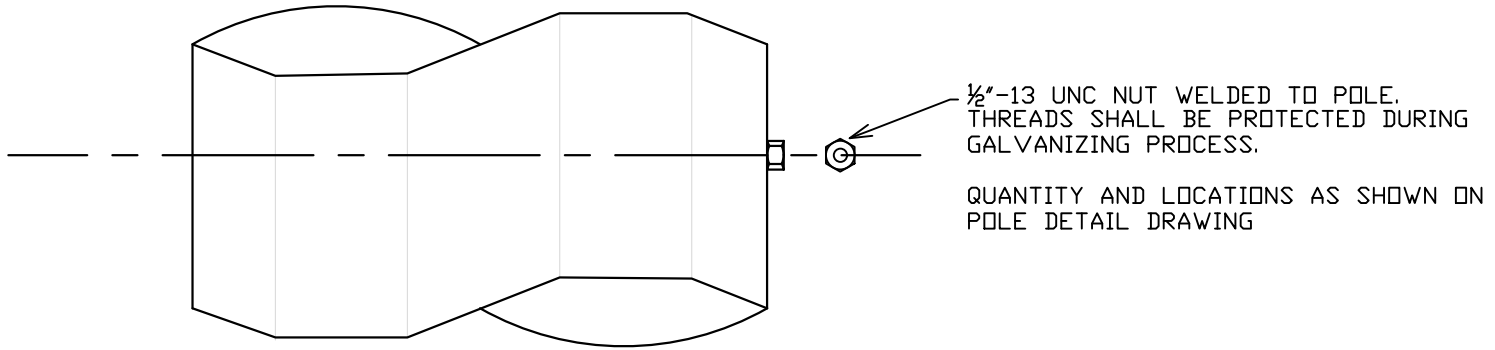
| NO. | REVISIONS TO DRAWING | BY | DATE | APPROVED | TRANSMISSION STANDARDS |
|-----|----------------------|----|------|----------|------------------------|
|     |                      |    |      |          |                        |
|     |                      |    |      |          |                        |
|     |                      |    |      |          |                        |
|     |                      |    |      |          |                        |

SCALE:  
NOT TO SCALE

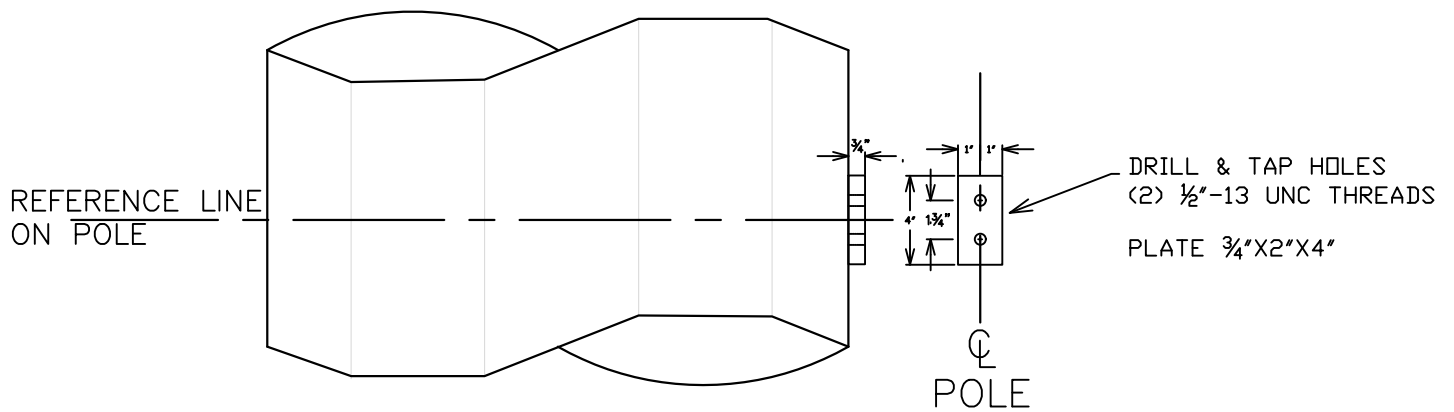
DEADEND VANG  
STEEL POLE



## GROUNDING NUT DETAIL



## GROUNDING PAD DETAIL



| NO. | REVISIONS TO DRAWING | BY | DATE | APPROVED |
|-----|----------------------|----|------|----------|
|-----|----------------------|----|------|----------|

[illegible]

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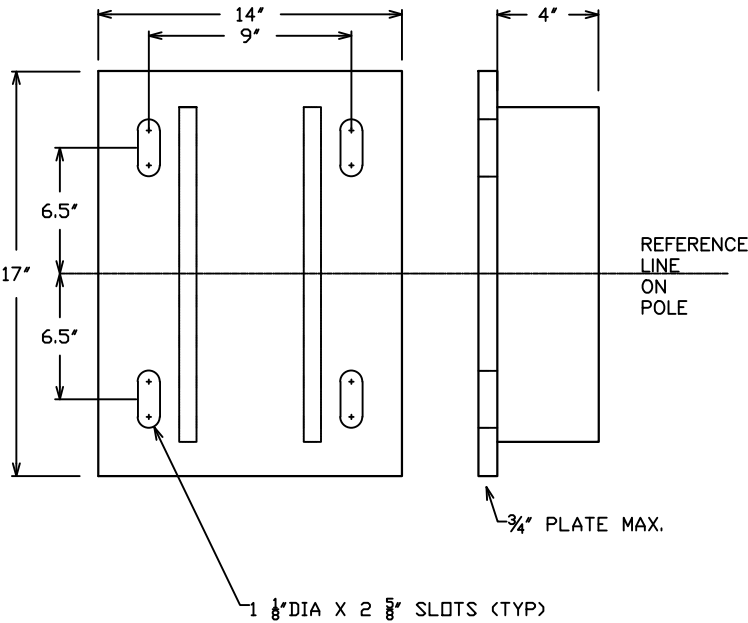
## TRANSMISSION STANDARDS

## GROUNDING

### STEEL POLE

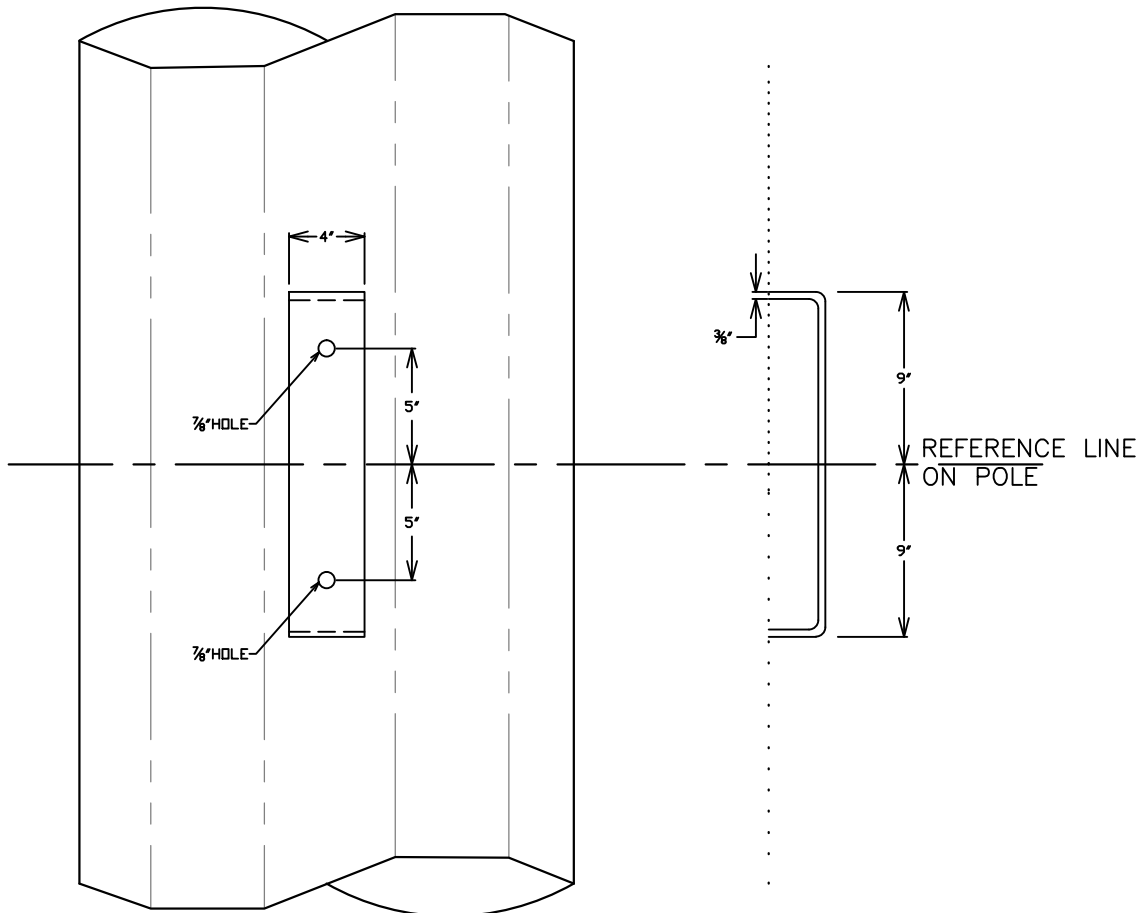
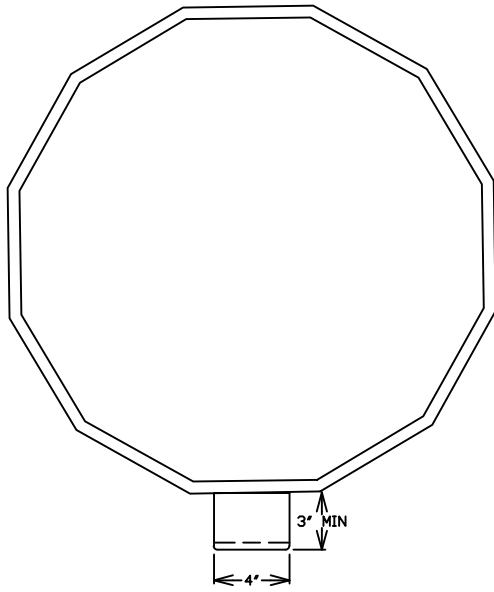


# INSULATOR MOUNTING PAD



| NO. | REVISIONS TO DRAWING | BY | DATE | APPROVED | TRANSMISSION STANDARDS |            |
|-----|----------------------|----|------|----------|------------------------|------------|
|     |                      |    |      |          | INSULATOR MOUNTING PAD |            |
|     |                      |    |      |          | SCALE:                 | STEEL POLE |
|     |                      |    |      |          | NOT TO SCALE           |            |





| NO.                 | REVISIONS TO DRAWING | BY | DATE | APPROVED | TRANSMISSION STANDARDS |  |
|---------------------|----------------------|----|------|----------|------------------------|--|
|                     |                      |    |      |          | DISTRIBUTION BKT       |  |
|                     |                      |    |      |          | STEEL POLE             |  |
| SCALE: NOT TO SCALE |                      |    |      |          | JEA BUILDING COMMUNITY |  |

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## 1. POLE DELIVERY MAPS

- 1) The following maps show the transmission corridor and the locations near the New World Substation where each pole shall be delivered along the corridor and road access to the corridor. Coordinates are provided for the proposed structure spotting locations. The maps below illustrate the transmission corridor, road access, and estimated delivery locations near the New World Substation for each pole. Coordinates are included for the estimated delivery locations. Exact location to be delivered will be provided as an addendum. The designated access routes are depicted on the map and detailed below
  - a. POW-MIA Memorial Pkwy: Head west, through the existing JEA Circuit 954 access road.
  - b. Finger Lake St: Head north
  - c. Finger Lake St to FSCJ Private Road: Head south
  - d. New World Road: Head west, through temporary JEA New world road





| New World Steel Structure Locations |                 |                |
|-------------------------------------|-----------------|----------------|
| Structure Number                    | Longitude (deg) | Latitude (deg) |
| 082-954                             | 30.242500°      | -81.892032°    |
| 049-960                             | 30.241373°      | -81.891889°    |
| 053-960                             | 30.245446°      | -81.894717°    |
| 064-960                             | 30.259804°      | -81.894748°    |